

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 9 400 087 500

Injection pump  
Pump designation : PES6P120A720LS7257  
: -10  
EP type number : 9 400 087 086

Governor  
Governor design. : RQV300...950PA1242  
Governor no. : 9 420 080 387

Cust. part No. : 0260746602

### Customer-spec. information

Customer : MBB  
Motor : OM 447 LA  
Power KW : 264.8

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.65  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 21.00

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance \*NW : + 0.50

### BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 275.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000s. : 9.0  
 Rated speed rpm : 300  
  
 Rack travel in mm : 5.50  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 16.5  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000s. : + - 6.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000s. : 12.0

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#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

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##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050  
 guide sleeve travel mm : 7.80  
 Tolerance mm : + - 0.10

Rated speed rpm : 700  
 guide sleeve travel mm : 5.45  
 Tolerance mm : + - 0.25

Rated speed rpm : 300  
 guide sleeve travel mm : 0.75  
 Tolerance mm : + - 0.25

Rated speed rpm : 500  
 guide sleeve travel mm : 3.55  
 Tolerance mm : + - 0.25

Rated speed rpm : 1165  
 guide sleeve travel mm : 9.45  
 Tolerance mm : + - 0.25

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##### GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 16.50  
 Tolerance mm : + - 1.30

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##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure hPa : 1300  
 Del. quantity cm<sup>3</sup>/1000 strokes : 275.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000s. : + - 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000s. : 9.0

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##### CONTROL LEVER

control lever position degree : 52.0  
 tolerance degree : + - 4.0

control lever position degree : 117.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 12.60  
 Rated speed rpm : 1000  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1125  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1230

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##### LOW IDLE

control lever position degree : 82.0  
 tolerance degree : + - 4.0

control lever position degree : 17.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 5.50  
 Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 9.20

Rated speed rpm : 325

#### TORQUE CONTROL

Rated speed rpm : 600  
rack travel mm : 14.25  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 13.65  
Tolerance mm : + - 0.05

Rated speed rpm : 750  
rack travel mm : 14.25  
Tolerance mm : + - 0.05

Rated speed rpm : 840  
rack travel mm : 13.90  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1300  
rack travel mm : 14.25  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 760  
rack travel mm : 2.25  
Tolerance mm : + - 0.15

Pressure hPa : 500  
rack travel mm : 0.90  
Tolerance mm : + - 0.10

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80

Check speed 1/min : < 240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1300  
Rated speed rpm : 950  
Del. quantity cm<sup>3</sup>/1000 strokes : 245.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : 1300  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 265.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 146.5  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
Spread cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### BREAKAWAY

Rack travel in mm : 12.60  
Rated speed rpm : 1000  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 236.0

cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 14.0

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LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.5  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 9 400 087 501

Injection pump  
Pump designation : PES5P120A720LS7280  
EP type number : 9 400 087 087

Governor  
Governor design. : RQV300...950PA1249  
Governor no. : 9 420 080 389

Cust. part No. : 4750747302

### Customer-spec. information

Customer : MBB  
Motor : OM 449 LA-EURO I  
Power KW : 220.7

### TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.75  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 263.5  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.30  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050  
 guide sleeve  
 travel mm : 7.80  
 Tolerance mm : + - 0.10  
  
 Rated speed rpm : 700  
 guide sleeve  
 travel mm : 5.45  
 Tolerance mm : + - 0.25  
  
 Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.75  
 Tolerance mm : + - 0.25  
  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 3.55  
 Tolerance mm : + - 0.25  
  
 Rated speed rpm : 1165  
 guide sleeve  
 travel mm : 9.45  
 Tolerance mm : + - 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1120  
  
 Rack travel in mm : 16.50  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 1300

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 263.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 52.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 117.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 12.70  
 Rated speed rpm : 995  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1125  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1250

##### LOW IDLE

control lever  
 position degree : 83.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 18.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 5.30  
 Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 9.00

Rated speed rpm : 325

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**TORQUE CONTROL**

Rated speed rpm : 700  
rack travel mm : 13.75  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 13.75  
Tolerance mm : + - 0.05

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**ANEROID/ALTITUDE COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 1300  
rack travel mm : 13.75  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
  
Rated speed rpm : 500  
  
Pressure hPa : 800  
rack travel mm : 2.85  
Tolerance mm : + - 0.15  
  
Pressure hPa : 480  
rack travel mm : 0.90  
Tolerance mm : + - 0.10

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**START CUT-OUT**

Rated speed rpm : > 100  
Rated speed rpm : < 220  
  
Check speed 1/min : > 80  
Check speed 1/min : < 240

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**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : 1300  
Rated speed rpm : 950  
Del. quantity  
cm3/1000 strokes : 256.0  
cm3/1000 strokes : + - 2.0

Check tolerance  
cm3/1000S. : + - 5.0  
Spread  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 121.0  
cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 4.0  
Spread  
cm3/1000 strokes : 5.0  
Check tolerance  
cm3/1000S. : 9.0

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**BREAKAWAY**

Rack travel in mm : 12.70  
Rated speed rpm : 995  
Tolerance 1/min : + - 5

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**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 250.0  
cm3/1000 strokes : + - 10.0  
Check tolerance  
cm3/1000S. : + - 14.0

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**LOW IDLE**

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 17.0  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0  
Spread  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

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End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 9 400 087 502

Injection pump  
Pump designation : PES6P120A720LS7257  
: -10  
EP type number : 9 400 087 086

Governor  
Governor design. : RQV300...950PA1262  
Governor no. : 9 420 080 394

Cust. part No. : 0260749902

**Customer-spec. information**

Customer : MBB  
Motor : OM 447 LA  
Power KW : 301.6

**TEST BENCH REQUIREMENTS**

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 21.00

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300

**BASIC SETTING**

Rated speed rpm : 600

Rack travel in mm : 14.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 301.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm3/1000 strokes : 17.0  
 cm3/1000 strokes : + 3.0  
 Check tolerance  
 cm3/1000S. : + 6.0  
 Spread  
 cm3/1000 strokes : 8.0  
 Check tolerance  
 cm3/1000S. : 12.0

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(B) SETTING OF INJECTION PUMP WITH GOVERNOR

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GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050  
 guide sleeve  
 travel mm : 7.80  
 Tolerance mm : + 0.10

Rated speed rpm : 700  
 guide sleeve  
 travel mm : 5.45  
 Tolerance mm : + 0.25

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.75  
 Tolerance mm : + 0.25

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 3.55  
 Tolerance mm : + 0.25

Rated speed rpm : 1165  
 guide sleeve  
 travel mm : 9.45  
 Tolerance mm : + 0.25

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GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure  
 hPa : 1400

Del. quantity  
 cm3/1000 strokes : 301.5  
 cm3/1000 strokes : + 1.0  
 Check tolerance  
 cm3/1000S. : + 4.0  
 Spread  
 cm3/1000 strokes : 5.0  
 Check tolerance  
 cm3/1000S. : 9.0

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CONTROL LEVER

control lever  
 position degree : 52.0  
 tolerance degree : + 4.0

control lever  
 position degree : 118.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.60  
 Rated speed rpm : 990  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1130  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1250

---

LOW IDLE

control lever  
 position degree : 82.0  
 tolerance degree : + 4.0

control lever  
 position degree : 17.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 5.50  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 8.50

Rated speed rpm : 325

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**TORQUE CONTROL**

Rated speed rpm : 600  
rack travel mm : 14.65  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 14.65  
Tolerance mm : + - 0.05

Rated speed rpm : 750  
rack travel mm : 14.65  
Tolerance mm : + - 0.05

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**ANEROID/ALTITUDE COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 1400  
rack travel mm : 14.65  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 1000  
rack travel mm : 2.75  
Tolerance mm : + - 0.15

Pressure hPa : 660  
rack travel mm : 1.00  
Tolerance mm : + - 0.10

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**START CUT-OUT**

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

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**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : 1400  
Rated speed rpm : 950

Del. quantity  
cm<sup>3</sup>/1000 strokes : 284.5  
cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 1400  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 293.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 146.5  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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**BREAKAWAY**

Rack travel in mm : 13.60  
Rated speed rpm : 990  
Tolerance 1/min : + - 5

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**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 265.0  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

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**LOW IDLE**

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 9 400 087 503

Injection pump  
Pump designation : PES5P120A720LS7280  
EP type number : 9 400 087 087

Governor  
Governor design. : RQV300...950PA1263  
Governor no. : 9 420 080 392

Cust. part No. : 0270740102

### Customer-spec. information

Customer : MBB  
Motor : OM 449 LA-EURO I  
Power KW : 206.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288

### BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 246.0  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.30  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050  
 guide sleeve  
 travel mm : 7.80  
 Tolerance mm :  $\pm$  0.10  
  
 Rated speed rpm : 700  
 guide sleeve  
 travel mm : 5.45  
 Tolerance mm :  $\pm$  0.25  
  
 Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.75  
 Tolerance mm :  $\pm$  0.25  
  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 3.55  
 Tolerance mm :  $\pm$  0.25  
  
 Rated speed rpm : 1165  
 guide sleeve  
 travel mm : 9.45  
 Tolerance mm :  $\pm$  0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1120  
  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure  
 hPa : 1200

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 246.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 52.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 117.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 12.10  
 Rated speed rpm : 1005  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1125  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1220

##### LOW IDLE

control lever  
 position degree : 83.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 18.0  
 tolerance degree :  $\pm$  4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 5.30  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 325

---

**TORQUE CONTROL**

---

Rated speed rpm : 600  
rack travel mm : 13.45  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 13.15  
Tolerance mm : + - 0.05

Rated speed rpm : 900  
rack travel mm : 13.15  
Tolerance mm : + - 0.05

Rated speed rpm : 750  
rack travel mm : 13.45  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 13.45  
Tolerance mm : + - 0.05

---

**ANEROID/ALTITUDE COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.45  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 700  
rack travel mm : 1.75  
Tolerance mm : + - 0.15

Pressure hPa : 500  
rack travel mm : 0.60  
Tolerance mm : + - 0.10

---

**START CUT-OUT**

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80

Check  
speed 1/min : < 240

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure hPa : 1200  
Rated speed rpm : 950  
Del. quantity cm<sup>3</sup>/1000 strokes : 232.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : 1200  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 243.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 149.5  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
Spread cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

**BREAKAWAY**

Rack travel in mm : 12.10  
Rated speed rpm : 1005  
Tolerance 1/min : + - 5

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 265.0

cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 9 400 087 504

Injection pump  
Pump designation : PES5P120A720LS7280  
EP type number : 9 400 087 087

Governor  
Governor design. : RQV300...950PA1264  
Governor no. : 9 420 080 393

Cust. part No. : 0270740002

### Customer-spec. information

Customer : MBB  
Motor : OM 449 LA-EURO I  
Power KW : 235.4

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288

### BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 286.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.10  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 10.5  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050  
 guide sleeve  
 travel mm : 7.80  
 Tolerance mm : + - 0.10  
  
 Rated speed rpm : 700  
 guide sleeve  
 travel mm : 5.45  
 Tolerance mm : + - 0.25  
  
 Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.75  
 Tolerance mm : + - 0.25  
  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 3.55  
 Tolerance mm : + - 0.25  
  
 Rated speed rpm : 1165  
 guide sleeve  
 travel mm : 9.45  
 Tolerance mm : + - 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1120  
  
 Rack travel in mm : 16.50  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure  
 hPa : 1300

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 286.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 53.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 118.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 12.80  
 Rated speed rpm : 1010  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1130  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1220

##### LOW IDLE

control lever  
 position degree : 82.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 17.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 5.10  
 Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 325

---

**TORQUE CONTROL**

---

Rated speed rpm : 600  
rack travel mm : 14.15  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 13.85  
Tolerance mm : + - 0.05

Rated speed rpm : 900  
rack travel mm : 13.85  
Tolerance mm : + - 0.05

Rated speed rpm : 750  
rack travel mm : 14.15  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 14.15  
Tolerance mm : + - 0.05

---

**ANEROID/ALTITUDE COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 1300  
rack travel mm : 14.15  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 940  
rack travel mm : 2.35  
Tolerance mm : + - 0.15

Pressure hPa : 600  
rack travel mm : 0.70  
Tolerance mm : + - 0.10

---

**START CUT-OUT**

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80

---

Check speed 1/min : < 240

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure hPa : 1300  
Rated speed rpm : 950  
Del. quantity cm3/1000 strokes : 264.0  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 5.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : 1300  
Rated speed rpm : 750  
Del. quantity cm3/1000 strokes : 280.0  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 5.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 149.5  
cm3/1000 strokes : + - 1.0  
Check tolerance cm3/1000S. : + - 4.0  
Spread cm3/1000 strokes : 5.0  
Check tolerance cm3/1000S. : 9.0

---

**BREAKAWAY**

Rack travel in mm : 12.80  
Rated speed rpm : 1010  
Tolerance 1/min : + - 5

---

**STARTING FUEL DELIVERY**

---

Rated speed rpm : 100  
Del. quantity cm3/1000 strokes : 265.0

cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 14.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.5  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.10.96  
Test oil : ISO 4113

Combination No. : 0 400 876 261

Injection pump  
Pump designation : PES6A90D410RS2293  
EP type number : 0 410 896 031

Governor  
Governor design. : RSV350...750A0C741L  
Governor no. : 0 420 232 414

Cust. part No. :

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM 352 A  
Power KW : 62.5

### TEST BENCH REQUIREMENTS

Inlet Line : 1.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.95  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 64.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 8.00  
Tolerance mm : + 0.10

Det. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Det. quantity  
 cm<sup>3</sup>/1000 strokes : 64.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

---

CONTROL LEVER

control lever  
 position degree : 81.0  
 tolerance degree : + - 4.0

---

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
 rack travel mm : 9.90  
 Rated speed rpm : 792  
 Tolerance 1/min : + - 4  
 rack travel mm : 4.00  
 rack travel mm : 1.00  
 Tolerance mm : + - 0.70  
 Rated speed rpm : 820

Rated speed rpm	:	751
rack travel mm	:	9.90
Rated speed rpm	:	793
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	1.00
Tolerance mm	:	+ - 0.70
Rated speed rpm	:	820
Rated speed rpm	:	752
rack travel mm	:	9.90
Rated speed rpm	:	794
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	1.00
Tolerance mm	:	+ - 0.70
Rated speed rpm	:	820
Rated speed rpm	:	753
rack travel mm	:	9.90
Rated speed rpm	:	795
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	1.00
Tolerance mm	:	+ - 0.70
Rated speed rpm	:	820
Rated speed rpm	:	754
rack travel mm	:	9.90
Rated speed rpm	:	796
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	1.00
Tolerance mm	:	+ - 0.70
Rated speed rpm	:	820
Rated speed rpm	:	755
rack travel mm	:	9.90
Rated speed rpm	:	797
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	1.00
Tolerance mm	:	+ - 0.70
Rated speed rpm	:	820

---

LOW IDLE

control lever  
position degree : 69.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 8.00  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : + - 30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 400  
rack travel mm : 2.00

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 10.95  
Tolerance mm : + - 0.05

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes : + - 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 10.0

---

LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 07.10.96  
Test oil : ISO 4113

Combination No. : 0 402 066 702

Injection pump  
Pump designation : PES6P110A120RS3336  
: -1  
EP type number : 0 412 016 751

Governor  
Governor design. : RSV550...1100P2A586  
: -1  
Governor no. : 0 421 833 480

Cust. part No. : 3926887

### Customer-spec. information

Customer : CDC  
Motor : 6CTA  
Power KW : 194.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 8.00  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### Beginning of delivery difference

and maximum rack  
travel : 15.00  
Difference ° CS : 1.50

---

**BASIC SETTING**Rated speed rpm : 1100

---

Rack travel in mm : 14.25  
Tolerance mm : + - 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.0

---

cm<sup>3</sup>/1000 strokes : + - 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

---

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

Rated speed rpm : 550

Rack travel in mm : 5.10  
Tolerance mm : + - 0.10

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.5  
cm<sup>3</sup>/1000 strokes : + - 2.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spreadcm<sup>3</sup>/1000 strokes : 4.0  
Check tolerancecm<sup>3</sup>/1000S. : 6.5

---

**(B) SETTING OF INJECTION PUMP WITH GOVERNOR**

---

**GUIDE SLEEVE POSITION**

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + - 0.20governor spring  
pre-tension  
click setting x : 3.00

---

**FULL LOAD DELIVERY AT FULL LOAD STOP**

Rated speed rpm : 1100

Aneroid pressure	:	
hPa	:	1500
Del. quantity	:	
cm <sup>3</sup> /1000 strokes	:	188.0
cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	+ - 3.0
Spred	:	
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	12.0

---

**CONTROL LEVER**

control lever	:	
position degree	:	96.0
tolerance degree	:	+ - 4.0

**RATED SPEED**

rack travel mm	:	13.25
Rated speed rpm	:	1185
Tolerance 1/min	:	+ - 5

rack travel mm	:	7.80
Rated speed rpm	:	1235
Tolerance 1/min	:	+ - 5

rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	1390

---

**LOW IDLE**

control lever	:	
position degree	:	67.5
tolerance degree	:	+ - 4.0

**Setting point w/out bumper spring**

Rated speed rpm	:	550
rack travel mm	:	4.60

**Testing:**

Rated speed rpm	:	550
rack travel mm	:	5.10
Tolerance mm	:	+ - 0.10

Rated speed rpm : 100

CRT mm min. : &gt; 19.00

---

**TORQUE CONTROL**

Rated speed rpm : 1100  
rack travel mm : 14.25  
Tolerance mm : + - 0.05

Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 25.0

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1000  
Pressure hPa : 1500

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1000  
rack travel mm : 11.10  
Tolerance mm : + - 0.20

Rated speed rpm : 1000

Pressure hPa : 995  
rack travel mm : 13.45  
Tolerance mm : + - 0.20

Pressure hPa : 655  
rack travel mm : 12.05  
Tolerance mm : + - 0.20

---

##### LOW IDLE

Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 123.5  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

---

##### BREAKAWAY

Rack travel in mm : 13.25  
Rated speed rpm : 1185  
Tolerance 1/min : + - 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 08.10.96  
Test oil : ISO 4113

Combination No. : 0 402 746 615

Injection pump  
Pump designation : PES6P120A320RS7419  
EP type number : 0 412 726 961

Governor  
Governor design. : RQV300...1300PA1289K  
Governor no. : 0 421 815 520

Cust. part No. : 386 6800

**Customer-spec. information**

Customer : CDC  
Motor : 6GTA  
Power KW : 249.5

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

**Start of delivery blocking**

\*NW after s.o.d. : 12.50  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 1250

Rack travel in mm : 12.60  
Tolerance mm : + 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	:	203.5
cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 4.0
Spred cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	12.0
Rated speed rpm	:	300
Rack travel in mm	:	6.35
Tolerance mm	:	+ - 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	:	32.5
cm <sup>3</sup> /1000 strokes	:	+ - 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 5.0
Spred cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance cm <sup>3</sup> /1000S.	:	8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	1.29
Tolerance mm	:	+ - 0.20

Rated speed rpm	:	1372
guide sleeve travel mm	:	9.86
Tolerance mm	:	+ - 0.15

Rated speed rpm	:	917
guide sleeve travel mm	:	6.76
Tolerance mm	:	+ - 0.25

Rated speed rpm	:	590
guide sleeve travel mm	:	4.95
Tolerance mm	:	+ - 0.25

Rated speed rpm	:	1710
guide sleeve travel mm	:	13.50

Tolerance mm : + - 0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1200
Aneroid pressure hPa	:	1200
Del. quantity cm <sup>3</sup> /1000 strokes	:	203.5
cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 4.0
Spred cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	12.0

##### CONTROL LEVER

control lever position degree	:	117.0
tolerance degree	:	+ - 4.0

##### RATED SPEED

rack travel mm	:	11.60
Rated speed rpm	:	1320
Tolerance 1/min	:	+ - 5

rack travel mm	:	4.00
Rated speed rpm	:	1470
Tolerance 1/min	:	+ - 15

rack travel mm	:	0.50
Tolerance mm	:	+ - 0.50
Rated speed rpm	:	1575

##### LOW IDLE

control lever position degree	:	75.0
tolerance degree	:	+ - 4.0

##### Testing:

Rated speed rpm	:	300
rack travel mm	:	6.35
Tolerance mm	:	+ - 0.20

Rated speed rpm : 250

CRT mm min. : > 7.80

Rated speed rpm : 450

---

#### TORQUE CONTROL

Rated speed rpm	:	1250
rack travel mm	:	12.60
Tolerance mm	:	+ 0.05
Rated speed rpm	:	800
rack travel mm	:	12.20
Tolerance mm	:	+ 0.10
Rated speed rpm	:	1100
rack travel mm	:	12.55
Tolerance mm	:	+ 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm	:	1100
Pressure hPa	:	1200

##### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	1100
rack travel mm	:	9.70
Tolerance mm	:	+ 0.20

Rated speed rpm	:	1100
-----------------	---	------

Pressure hPa	:	670
rack travel mm	:	11.80
Tolerance mm	:	+ 0.20

Pressure hPa	:	385
rack travel mm	:	10.50
Tolerance mm	:	+ 0.20

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1200
Rated speed rpm	:	800
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	206.0
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 6.0
Spread		
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	12.0

#### Aneroid pressure

hPa	:	-
Rated speed rpm	:	1100
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	122.0
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 3.0

---

#### BREAKAWAY

Rack travel in mm	:	11.60
Rated speed rpm	:	1320
Tolerance 1/min	:	+ 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	9.70
Tolerance mm	:	+ 0.20
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	176.5
cm <sup>3</sup> /1000 strokes	:	+ 20.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 25.0

---

#### LOW IDLE

Rated speed rpm	:	300
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	32.5
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 5.0
Spread		
cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.10.96  
Test oil : ISO 4113

Combination No. : 0 402 996 312

Injection pump  
Pump designation : PES6P120A720RS8512  
: -5  
EP type number : 0 412 926 215

Governor  
Governor design. : RE30  
Governor no. : 0 421 890 024

Cust. part No. : 313 GC 5225 P1

### Customer-spec. information

Customer : MACK  
Motor : E7

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 3 413 359 008

Inlet press. bar : 3.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.60  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 12.00  
Tolerance mm : + 0.20

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
 $n=600 \text{ min}^{-1}$ ,  $U_{act} = 2.5 \text{ V}$

### TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point  
(P, R and H pump)

$U_{act} \text{ V}$  : 3.100  
CRT mm : 13.00

Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.  
CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference

Amplitude to  
Amplitude V : max.1.4

---

### (C) INJECTION PUMP WITH POSITIONER

#### TEST POINT V1

Rated speed rpm : 900  
Uact V : 3.050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 310.0  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

#### FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 625  
Uact V : 3.260  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 392.0  
cm<sup>3</sup>/1000 strokes : +/- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 12.0  
Spread  
cm<sup>3</sup>/1000 strokes : 16.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 18.0

#### TEST POINT L1

Rated speed rpm : 325  
Rated speed rpm : 325  
Uact V : 1.310  
Uact V : 1.310  
Tolerance Volt : +/- 0.060  
Check tolerance  
Volt : +/- 0.070  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.0  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.0  
cm<sup>3</sup>/1000 strokes : +/- 3.0  
cm<sup>3</sup>/1000 strokes : +/- 3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 6.0  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 4.700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
cm<sup>3</sup>/1000 strokes : + 19.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 22.0  
Spred  
cm<sup>3</sup>/1000 strokes : 40.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 50.0

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.09.96  
Test oil : ISO 4113

Combination No. : 9 400 030 737

Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215

Governor  
Governor design. : RSV475...1100A0C850R  
Governor no. : 9 420 034 716

Cust. part No. : 3929409

**Customer-spec. information**

Customer : CDC  
Motor : 6BT  
Power KW : 90.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

**Start of delivery blocking**

\*NW after s.o.d. : 7.00  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 1100

Rack travel in mm : 10.95  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 87.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 500  
 Rack travel in mm : 5.40  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.5  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20  
 governor spring pre-tension  
 click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure hPa : 900  
 Del. quantity cm<sup>3</sup>/1000 strokes : 87.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance cm<sup>3</sup>/1000S. : 6.0

##### CONTROL LEVER

control lever position degree : 111.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 9.90  
 Rated speed rpm : 1155  
 Tolerance 1/min : + - 5

rack travel mm : 5.50  
 Rated speed rpm : 1220  
 Tolerance 1/min : + - 5

rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1300

rack travel mm : 5.50  
 Rated speed rpm : 1230

##### LOW IDLE

control lever position degree : 92.0  
 tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 500  
 rack travel mm : 4.90

##### Testing:

Rated speed rpm : 500  
 rack travel mm : 5.40  
 Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 10.95  
 Tolerance mm : + - 0.05

Rated speed rpm : 800

rack travel mm : 11.50  
Tolerance mm : + - 0.10

---

End of test specification sheet

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 98.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 9.90  
Rated speed rpm : 1155  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 15.0

---

#### LOW IDLE

Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 08.10.96  
Test oil : ISO 4113

Combination No. : 0 402 036 066

Injection pump  
Pump designation : PES6P110A720/3LS477  
: -2  
EP type number : 0 412 016 071

Governor  
Governer design. : RQ250/1100PA845  
Governer no. : 0 421 801 380

Cust. part No. : 51.11102-7821

## Customer-spec. information

Customer : MAN  
Motor : D2866 F/UH  
Power KW : 177.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance L/h : + 10.0

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.55  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 11.95  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 127.5  
 cm<sup>3</sup>/1000 strokes : + - 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 250

Rack travel in mm : 6.10  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.5  
 cm<sup>3</sup>/1000 strokes : + - 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 Rack travel in mm : 20.00  
 Tolerance mm : + - 0.80

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 127.5  
 cm<sup>3</sup>/1000 strokes : + - 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

#### RATED SPEED

rack travel mm : 10.90  
 Rated speed rpm : 1153  
 Tolerance 1/min : + - 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1245  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1350

#### LOW IDLE

control lever  
 position degree : 74.0  
 tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 250  
 rack travel mm : 6.10  
 Tolerance mm : + - 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 340  
 Tolerance 1/min : + - 20  
 Rated speed rpm : 100  
 CRT mm min. : > 7.60

#### TORQUE CONTROL

Rated speed rpm : 800  
 rack travel mm : 11.95  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 1100  
 rack travel mm : 11.90  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 500  
 rack travel mm : 11.90  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 1100  
 rack travel mm : 12.45  
 Tolerance mm : + - 0.10

#### START CUT-OUT

Rated speed rpm : > 100

Rated speed rpm : < 170

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Check  
speed 1/min : > 80

Check  
speed 1/min : < 190

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -

Rated speed rpm : 1100

Del. quantity

cm<sup>3</sup>/1000 strokes : 138.0

cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance

cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure

hPa : -

Rated speed rpm : 500

Del. quantity

cm<sup>3</sup>/1000 strokes : 123.0

cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance

cm<sup>3</sup>/1000S. : + 6.0

---

#### BREAKAWAY

Rack travel in mm : 10.90

Rated speed rpm : 1153

Tolerance 1/min : + 8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm<sup>3</sup>/1000 strokes : 120.0

cm<sup>3</sup>/1000 strokes : + 10.0

Check tolerance

cm<sup>3</sup>/1000S. : + 14.0

---

#### LOW IDLE

Rated speed rpm : 250

Del. quantity

cm<sup>3</sup>/1000 strokes : 17.5

cm<sup>3</sup>/1000 strokes : + 2.5

Check tolerance

cm<sup>3</sup>/1000S. : + 5.0

Spread

cm<sup>3</sup>/1000 strokes : 4.5

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.10.96  
Test oil : ISO 4113

Combination No. : 0 402 046 876

Injection pump  
Pump designation : PES6P110A320RS3329Y  
EP type number : 0 412 016 756

Governor  
Governor design. : RQV325...1250PA1251  
Governor no. : 0 421 814 164

Cust. part No. : 1309375/0

**Customer-spec. information**

Customer : DAF  
Motor : NS133M  
Power KW : 133.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 160  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

**Start of delivery mark**

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 1000

Rack travel in mm : 11.85  
Tolerance mm : + 0.05

Del. quantity : \_\_\_\_\_  
 cm<sup>3</sup>/1000 strokes : 146.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance : + - 4.0  
 Spred : \_\_\_\_\_  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance : \_\_\_\_\_  
 cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 325  
 Rack travel in mm : 4.50  
 Tolerance mm : + - 0.10  
 Del. quantity : \_\_\_\_\_  
 cm<sup>3</sup>/1000 strokes : 26.0  
 cm<sup>3</sup>/1000 strokes : + - 2.5  
 Check tolerance : + - 5.0  
 Spred : \_\_\_\_\_  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Check tolerance : + - 15.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
 guide sleeve travel mm : 1.25  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1298  
 guide sleeve travel mm : 10.25  
 Tolerance mm : + - 0.15  
 Rated speed rpm : 863  
 guide sleeve travel mm : 5.41  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 520  
 guide sleeve travel mm : 3.02  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1510  
 guide sleeve travel mm : 13.50

Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1370  
 Rack travel in mm : 10.85  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure hPa : 1000  
 Del. quantity : 1000  
 cm<sup>3</sup>/1000 strokes : 146.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance : + - 4.0  
 Spred : \_\_\_\_\_  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance : + - 7.5

##### CONTROL LEVER

control lever position degree : 123.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 10.85  
 Rated speed rpm : 1285  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1360  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1500

##### LOW IDLE

control lever position degree : 76.0  
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 325

rack travel mm : 4.50  
 Tolerance mm : + 0.10  
 Rated speed rpm : 225  
 CRT mm min. : > 6.00  
 Rated speed rpm : 375

---

#### TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 11.85  
 Tolerance mm : + 0.05  
 Rated speed rpm : 700  
 rack travel mm : 11.85  
 Tolerance mm : + 0.10  
 Rated speed rpm : 1250  
 rack travel mm : 11.85  
 Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 600  
 Pressure hPa : 1000  
 rack travel mm : 11.85  
 Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 600  
 rack travel mm : 6.50  
 Tolerance mm : + 0.20

Rated speed rpm : 600

Pressure hPa : 310  
 rack travel mm : 10.55  
 Tolerance mm : + 0.05

Pressure hPa : 130  
 rack travel mm : 7.85  
 Tolerance mm : + 0.10

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000

Rated speed rpm : 700  
 Del. quantity cm<sup>3</sup>/1000 strokes : 147.5  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 6.0  
 Aneroid pressure hPa : -  
 Rated speed rpm : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 83.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.5

---

#### BREAKAWAY

Rack travel in mm : 10.85  
 Rated speed rpm : 1285  
 Tolerance 1/min : + 5

#### LOW IDLE

Rated speed rpm : 325  
 Del. quantity cm<sup>3</sup>/1000 strokes : 26.0  
 cm<sup>3</sup>/1000 strokes : + 2.5  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Spread cm<sup>3</sup>/1000 strokes : 12.0  
 Check tolerance cm<sup>3</sup>/1000S. : 15.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 0 402 076 811

Injection pump  
Pump designation : PES6P120A1320/5RS338  
: 0  
EP type number : 0 412 026 800

Governor  
Governor design. : RSV350...1100P8A664  
Governor no. : 0 421 833 584

Cust. part No. : 1385930

### Customer-spec. information

Customer : SCANIA  
Motor : DS9 93M, DSC9 47M

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.95  
 Tolerance mm : + 0.05  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 146.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 5.20  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 20.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 146.0  
 cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever  
 position degree : 59.0  
 tolerance degree : + 4.0  
 control lever  
 position degree : 109.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.90  
 Rated speed rpm : 1145  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1240  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1390

##### LOW IDLE

control lever  
 position degree : 77.0  
 tolerance degree : + 4.0

control lever  
 position degree : 27.0  
 tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 4.70

##### Testing:

Rated speed rpm : 350  
 rack travel mm : 5.20  
 Tolerance mm : + 0.10

##### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.95  
Tolerance mm : + - 0.05

Rated speed rpm : 1100  
rack travel mm : 11.95  
Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.95  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 150  
rack travel mm : 11.05  
Tolerance mm : + - 0.15

Pressure hPa : 310  
rack travel mm : 11.65  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1145  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 0 402 076 812

Injection pump  
Pump designation : PES6P120A1320/5RS338  
: 1  
EP type number : 0 412 026 801

Governor  
Governer design. : RSV350...1100P1A666  
Governer no. : 0 421 833 585

Cust. part No. : 1385930

### Customer-spec. information

Customer : SCANIA  
Motor : DS9192A/95M

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.65  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 217.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rack travel in mm : 6.00  
Tolerance mm :  $\pm$  0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

cm<sup>3</sup>/1000 strokes :  $\pm$  4.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm :  $\pm$  0.20

governor spring  
pre-tension  
click setting x : 2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 217.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever  
position degree : 33.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 83.0  
tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 13.60  
Rated speed rpm : 750

rack travel mm : 4.00  
Rated speed rpm : 788  
Tolerance 1/min :  $\pm$  4

rack travel mm : 0.85  
Tolerance mm :  $\pm$  0.55  
Rated speed rpm : 850

##### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 14.65  
Tolerance mm :  $\pm$  0.05

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 14.65  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 12.00  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : -  
rack travel mm : 12.60  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 480

Rack travel mm : 13.95  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 13.60  
Rated speed rpm : 750

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 0 402 640 828

Injection pump  
Pump designation : PE12P120A520LS7826  
EP type number : 0 412 620 817

Governor  
Governor design. : RQV350...1050PA870  
: -13  
Governor no. : 0 421 813 934

Cust. part No. :

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM 444 LA  
Power KW : 620.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 160  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 20.00  
Tolerance mm : + 1.00

Firing order : 12- 1- 5- 9- 8  
: - 3- 4- 11- 10  
: - 2- 6- 7

Phasing : 0-45-60-105-120  
: -165-180-225-240  
: -285-300-345  
Tolerance : + 0.30

Check tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check tolerance °NW : + 0.75

Barrel no. : 12

### BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.05  
 Tolerance mm : + 0.05  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 275.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0  
 Rated speed rpm : 350  
  
 Rack travel in mm : 5.60  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1150  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 1800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 275.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

##### CONTROL LEVER

control lever  
 position degree : 118.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 13.00  
 Rated speed rpm : 1095  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1185  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1250

##### LOW IDLE

control lever  
 position degree : 63.0  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 350  
 rack travel mm : 5.60  
 Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 7.30

Rated speed rpm : 475

##### TORQUE CONTROL

Rated speed rpm : 1050  
 rack travel mm : 14.05  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 14.05  
 Tolerance mm : + 0.10

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Pressure hPa : 300  
rack travel mm : 1.45  
Tolerance mm : + - 0.05

Pressure hPa : 900  
rack travel mm : 4.85  
Tolerance mm : + - 0.15

---

### START CUT-OUT

Rated speed rpm : > 200  
Rated speed rpm : < 310

Check speed 1/min : > 180  
Check speed 1/min : < 330

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1800  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 266.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spred  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

---

## BREAKAWAY

Rack travel in mm : 13.00  
Rated speed rpm : 1095  
Tolerance 1/min : + - 5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 340.0  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

---

### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 0 402 696 033

Injection pump  
Pump designation : PE6H120/320LS4-2  
EP type number : 0 412 626 003

Governor  
Governor design. : RE36  
Governor no. : 0 421 890 359

Cust. part No. : 0250745502

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM 441 LA

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2 ELAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x ins.ole diameter : 3.0  
x length mm : 600

## REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 7.00  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-  
: 1

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.50  
Check tolerance °NW : + 0.75

## Start of delivery mark

Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 6

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

**TESTING & SETTING RACK TRAVEL SENSOR POSITION**

Engine speed min-1: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.  
CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

**ENGINE-SPEED SENSOR**  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min-1: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min-1: 600  
Difference  
Amplitude to  
Amplitude V : max. 1.4

**(C) INJECTION PUMP WITH POSITIONER**

**TEST POINT V1**

Rated speed rpm : 750  
Uact V : 3.000  
Prestroke solenoid  
Stroke mm : 7.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 375.0  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

**FUEL DELIVERY CHARACTERISTICS**

Rated speed rpm : 1050  
Uact V : 3.000  
Prestroke solenoid  
Stroke mm : 7.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 339.0  
cm<sup>3</sup>/1000 strokes : +/- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 6.0

Rated speed rpm : 550  
Uact V : 2.800  
Prestroke solenoid  
Stroke mm : 8.70  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 367.0  
cm<sup>3</sup>/1000 strokes : +/- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 6.0

**TEST POINT L1**

Rated speed rpm : 300  
Uact V : 1.500

Tolerance Volt :  $\pm$  0.060  
Check tolerance  
Volt :  $\pm$  0.060  
Prestroke solenoid  
Stroke mm : 8.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 1.900  
Prestroke solenoid  
Stroke mm : 10.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 106.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.08.96  
Test oil : ISO 4113

Combination No. : 0 402 744 805

Injection pump  
Pump designation : PES4P120A320RS7312  
: -1  
EP type number : 0 412 724 803

Governor  
Governor design. : RQ400/1200PA1319  
Governor no. : 0 421 801 813

Cust. part No. : 51.11103-7553

### Customer-spec. information

Customer : MAN  
Motor : D 0824 LOH 05  
Power KW : 114.0

### TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 120  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.25  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10  
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.30  
Check tolerance °NW : + 0.50

### Start of delivery blocking

Tolerance : + 0.10  
Check tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.20  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 72.0

cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 8.0

Spred

cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 1000

Rack travel in mm : 13.05  
Tolerance mm : + - 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 206.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

Spred

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 400

Rack travel in mm : 4.80  
Tolerance mm : + - 0.10

Del. quantity cm<sup>3</sup>/1000 strokes : 40.0

cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Spred

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400  
guide sleeve travel mm : 2.94  
Tolerance mm : + - 0.20

Rated speed rpm : 1256

guide sleeve travel mm : 7.33  
Tolerance mm : + - 0.15

Rated speed rpm : 1200  
guide sleeve travel mm : 7.00  
Tolerance mm : + - 0.10

Rated speed rpm : 443  
guide sleeve travel mm : 4.95  
Tolerance mm : + - 0.10

Rated speed rpm : 530  
guide sleeve travel mm : 7.00  
Tolerance mm : + - 0.10

Rated speed rpm : 1390  
guide sleeve travel mm : 11.50  
Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 700

Rack travel in mm : 20.00  
Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure hPa : 1200  
Del. quantity cm<sup>3</sup>/1000 strokes : 206.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
Spred cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

CONTROL LEVER

control lever position degree : 99.0  
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 12.05  
Rated speed rpm : 1250

Tolerance 1/min : + 8

rack travel mm : 4.00  
Rated speed rpm : 1335  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1400

---

#### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 400  
rack travel mm : 4.80  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 433  
Tolerance 1/min : + 20

Rated speed rpm : 300

CRT mm min. : > -1.00

---

#### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 13.05  
Tolerance mm : + 0.05

Rated speed rpm : 1200  
rack travel mm : 13.05  
Tolerance mm : + 0.10

Rated speed rpm : 700  
rack travel mm : 13.05  
Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.05  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.90  
Tolerance mm : + 0.15

Rated speed rpm : 500  
Pressure hPa : 200  
rack travel mm : 9.20

Tolerance mm : + 0.15  
Pressure hPa : 500  
rack travel mm : 11.85  
Tolerance mm : + 0.25

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 208.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 218.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.05  
Rated speed rpm : 1250  
Tolerance 1/min : + 8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.90  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0  
cm<sup>3</sup>/1000 strokes : + - 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 12.0

---

LOW IDLE

Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.96  
Test oil : ISO 4113

Combination No. : 0 402 796 033

Injection pump  
Pump designation : PES6H120/720LS7  
EP type number : 0 412 726 004

Governor  
Governor design. : RE36  
Governor no. : 0 421 890 360

Cust. part No. : 0250745702

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM 447 LA

### TEST BENCH REQUIREMENTS

Inlet line : 3.2 EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 7.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 6-2-4-1-5-  
: 3

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

### Start of delivery mark

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 6

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.  
CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(All P and R pumps not  
H and M pumps)

+ Test with control rod  
in stop position

Engine speed min-1: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min-1: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 800  
Uact V : 2.650  
Prestroke solenoid  
Stroke mm : 9.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 302.0  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1100  
Uact V : 2.750  
Prestroke solenoid  
Stroke mm : 6.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 302.0  
cm<sup>3</sup>/1000 strokes : +/- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 8.0

Rated speed rpm : 550  
Uact V : 2.350  
Prestroke solenoid  
Stroke mm : 9.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 272.0  
cm<sup>3</sup>/1000 strokes : +/- 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 11.0

TEST POINT L1

Rated speed rpm : 300  
Uact V : 1.440

Tolerance Volt : + 0.060  
Check tolerance  
Volt : + 0.060  
Prestroke solenoid  
Stroke mm : 9.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 1.900  
Prestroke solenoid  
Stroke mm : 9.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 104.0  
cm<sup>3</sup>/1000 strokes : + 10.0

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.10.96  
Test oil : ISO 4113

Combination No. : 0 402 946 027

Injection pump  
Pump designation : PES6P120A320RS8047  
EP type number : 0 412 926 029

Governor  
Governor design. : RQV275...1250PA1312K  
Governor no. : 0 421 815 966

Cust. part No. : CCEP 5160 66-244

**Customer-spec. information**

Customer : RENAULT V.I.  
Motor : MIDR 06.02.26L71  
Power KW : 132.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Overflow quantity  
min. l/h : 145  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.15  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

**Start of delivery mark**

\*NW after s.o.d. : -0.60  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

**Beginning of delivery difference**

betw. rack trav.  
mm : 21.00  
and maximum rack  
travel : 19.50  
Difference ° CS : 3.00

---

#### CRT ZERO POSITION

Rack travel in mm : 12.10  
Tolerance mm :  $\pm$  0.05

---

#### BASIC SETTING

Rated speed rpm : 1250

Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 325

Rack travel in mm : -7.50  
Tolerance mm :  $\pm$  0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.0

cm<sup>3</sup>/1000 strokes :  $\pm$  2.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
guide sleeve  
travel mm : 1.52  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1340  
guide sleeve  
travel mm : 9.96  
Tolerance mm :  $\pm$  0.15

Rated speed rpm : 923  
guide sleeve  
travel mm : 6.76  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 550  
guide sleeve  
travel mm : 3.92  
Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1650  
guide sleeve  
travel mm : 13.50  
Tolerance mm :  $\pm$  0.50

---

#### GUIDE SLEEVE POSITION

Rated speed rpm : 1430

Rack travel in mm : 11.10  
Tolerance mm :  $\pm$  2.70

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure

hPa : 1600

Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0

cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

#### CONTROL LEVER

control lever  
position degree : 296.0  
tolerance degree :  $\pm$  4.0

---

#### RATED SPEED

rack travel mm : -1.00  
Rated speed rpm : 1325

Tolerance 1/min :  $\pm$  15

rack travel mm : -8.10  
Rated speed rpm : 1465

Tolerance 1/min :  $\pm$  5

rack travel mm : -11.60  
Tolerance mm :  $\pm$  0.55

Rated speed rpm : 1600

---

## LOW IDLE

control lever  
position degree : 241.0  
tolerance degree : + - 4.0

### Testing:

Rated speed rpm : 325  
rack travel mm : -7.50  
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : < -6.10

Rated speed rpm : 325  
rack travel mm : > 6.10

---

## TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 650  
rack travel mm : -2.10  
Tolerance mm : + - 0.10

Rated speed rpm : 350  
rack travel mm : -3.25  
Tolerance mm : + - 0.25

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1600  
Tolerance mm : + - 0.10

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -4.60  
Tolerance mm : + - 0.20

Rated speed rpm : 1250

Pressure hPa : 250  
rack travel mm : -3.70  
Tolerance mm : + - 0.20

---

Pressure hPa : 700  
rack travel mm : -0.60  
Tolerance mm : + - 0.05

---

## START CUT-OUT

Rated speed rpm : > 175  
Rated speed rpm : < 240

Check speed 1/min : > 155  
Check speed 1/min : < 260

---

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1600  
Rated speed rpm : 650  
Del. quantity cm<sup>3</sup>/1000 strokes : 174.5  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 124.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

---

## BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1325  
Tolerance 1/min : + - 15

---

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 113.0  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 14.0

---

## LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 28.06.96  
Test oil : ISO 4113

Combination No. : 0 403 476 132

Injection pump  
Pump designation : PES6MW100/320RS1132  
: -1  
EP type number : 0 413 406 230

Governor  
Governor design. : RSV325...1200MW0A359  
: -1  
Governor no. : 0 420 085 241

Cust. part No. : 866708/P04/960802

### Customer-spec. information

Customer : PENTA  
Motor : TD 630ME  
Power KW : 119.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.95  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check tolerance \*NW : + 0.75

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 116.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 325  
 Rack travel in mm : 6.00  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 14.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring pre-tension  
 click setting x : 3.20

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure hPa : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 116.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0

##### CONTROL LEVER

control lever position degree : 96.0  
 tolerance degree : + 4.0  
**RATED SPEED**  
 rack travel mm : 11.60  
 Rated speed rpm : 1230  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1285  
 Tolerance 1/min : + 10  
 rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1350  
 rack travel mm : 4.00  
 Rated speed rpm : 1295

##### LOW IDLE

control lever position degree : 69.0  
 tolerance degree : + 4.0  
**Setting point w/out bumper spring**  
 Rated speed rpm : 325  
 rack travel mm : 5.50  
**Testing:**  
 Rated speed rpm : 325  
 rack travel mm : 6.00  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 490  
 Tolerance 1/min : + 30  
 Rated speed rpm : 100  
 CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 700  
 rack travel mm : 12.65  
 Tolerance mm : + 0.05

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 700  
Pressure hPa : 1000  
rack travel mm : 12.65  
Tolerance mm :  $\pm$  0.05

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 700  
rack travel mm : 10.55  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700

Pressure hPa : 610  
rack travel mm : 12.45  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 270  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 77.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

### BREAKAWAY

Rack travel in mm : 11.60  
Rated speed rpm : 1230  
Tolerance 1/min :  $\pm$  5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00

Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  13.0

---

### LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.09.96  
Test oil : ISO 4113

Combination No. : 9 400 083 423

Injection pump  
Pump designation : PES3A80D320/3RS1264  
EP type number : 9 400 083 053

Governor  
Governor design. : RSV350...900A7C627R  
Governor no. : 9 420 083 264

Cust. part No. :

---

Customer-spec. information  
Customer : MWM  
Motor : D225-3

---

### TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.25  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 2- 3

Phasing : 0-120-240

Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.50

### BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 10.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0

Spred  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0  
Rated speed rpm : 350

Rack travel in mm : 6.00  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spred  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.65  
Tolerance mm : + 0.35  
  
governor spring  
pre-tension  
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0  
Spred  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

CONTROL LEVER

control lever  
position degree : 111.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 940  
rack travel mm : 9.20  
  
Rated speed rpm : 969  
Tolerance 1/min : + 4  
rack travel mm : 4.00  
  
Rated speed rpm : 941  
rack travel mm : 9.20  
  
Rated speed rpm : 970  
Tolerance 1/min : + 4  
rack travel mm : 4.00  
  
Rated speed rpm : 942  
rack travel mm : 9.20  
  
Rated speed rpm : 971  
Tolerance 1/min : + 4  
rack travel mm : 4.00  
  
Rated speed rpm : 943  
rack travel mm : 9.20  
  
Rated speed rpm : 972  
Tolerance 1/min : + 4  
rack travel mm : 4.00  
  
Rated speed rpm : 944  
rack travel mm : 9.20  
  
Rated speed rpm : 973  
Tolerance 1/min : + 4  
rack travel mm : 4.00  
  
Rated speed rpm : 945  
rack travel mm : 9.20  
  
Rated speed rpm : 974  
Tolerance 1/min : + 4  
rack travel mm : 4.00

LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : + 4.0  
  
Setting point w/out bumper spring

Rated speed rpm : 350

rack travel mm : 5.50

Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 450  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 10.25  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 10.30  
Tolerance mm : + - 0.10

Rated speed rpm : 400  
rack travel mm : 11.20  
Tolerance mm : + - 0.30

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

---

LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.09.96  
Test oil : ISO 4113

Combination No. : 9 400 083 427

Injection pump  
Pump designation : PES4A80D320/3RS1265  
EP type number : 9 400 083 055

Governor  
Governor design. : RSV350...900A7C627R  
Governor no. : 9 420 083 264

Cust. part No. :

Customer-spec. information  
Customer : MWM  
Motor : D225-4

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.25  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Beginning of delivery difference  
and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.50

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 10.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000s. : + 2.0

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.00

Tolerance mm : + 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 9.5

cm<sup>3</sup>/1000 strokes : + 1.5

Check tolerance

cm<sup>3</sup>/1000S. : + 3.5

Spred

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance

cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : + 0.35

governor spring  
pre-tension  
click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 52.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance

cm<sup>3</sup>/1000S. : + 2.0

Spred

cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance

cm<sup>3</sup>/1000S. : 4.0

##### CONTROL LEVER

control lever

position degree : 111.0

tolerance degree : + 4.0

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 940  
rack travel mm : 9.20

Rated speed rpm : 969  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 941  
rack travel mm : 9.20

Rated speed rpm : 970  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 942  
rack travel mm : 9.20

Rated speed rpm : 971  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 943  
rack travel mm : 9.20

Rated speed rpm : 972  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 944  
rack travel mm : 9.20

Rated speed rpm : 973  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 945  
rack travel mm : 9.20

Rated speed rpm : 974  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

---

#### LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 5.50

#### Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 450  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

---

#### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 10.25  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 10.30  
Tolerance mm : + 0.10

Rated speed rpm : 400  
rack travel mm : 11.20  
Tolerance mm : + 0.30

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

---

#### STARTING FUEL DELIVERY

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 18.09.96  
Test oil : ISO 4113

Combination No. : 9 400 083 429

Injection pump  
Pump designation : PES6A80D320/3RS1261  
EP type number : 9 400 083 057

Governor  
Governor design. : RSV350...900A7C627R  
Governor no. : 9 420 083 264

Cust. part No. :

Customer-spec. information  
Customer : MWM  
Motor : D225-6

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.25  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.50

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 10.25  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 52.0

cm3/1000 strokes : + 0.5

Check tolerance  
cm3/1000s. : + 2.0

Spread

cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance cm<sup>3</sup>/1000s. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.00  
Tolerance mm : + 0.10

Del. quantity cm<sup>3</sup>/1000 strokes : 9.5

cm<sup>3</sup>/1000 strokes : + 1.5

Check tolerance cm<sup>3</sup>/1000s. : + 3.5

Spred

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance cm<sup>3</sup>/1000s. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + 0.35

governor spring  
pre-tension  
click setting x : 6.00

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

Aneroid pressure hPa : -

Del. quantity cm<sup>3</sup>/1000 strokes : 52.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance cm<sup>3</sup>/1000s. : + 2.0

Spred

cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance cm<sup>3</sup>/1000s. : 4.0

#### CONTROL LEVER

control lever position degree : 111.0

tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1100

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 940  
rack travel mm : 9.20

Rated speed rpm : 969  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 941  
rack travel mm : 9.20

Rated speed rpm : 970  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 942  
rack travel mm : 9.20

Rated speed rpm : 971  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55

Rated speed rpm : 943  
rack travel mm : 9.20

Rated speed rpm : 972  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55

Rated speed rpm : 944  
rack travel mm : 9.20

Rated speed rpm : 973  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55

Rated speed rpm : 945  
rack travel mm : 9.20

Rated speed rpm : 974  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55

---

#### LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 5.50

Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 450  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

---

#### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 10.25  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 10.30  
Tolerance mm : + - 0.10

Rated speed rpm : 400  
rack travel mm : 11.20  
Tolerance mm : + - 0.30

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.09.96  
Test oil : ISO 4113

Combination No. : 9 400 083 450AJ

Injection pump  
Pump designation : PES6A100D320/3RS2691  
EP type number : 9 410 230 025

Governor  
Governor design. : RSV375...1150A2C2210  
: R  
Governor no. : 9 420 083 202

Cust. part No. : 3353250-VERSA009

### Customer-spec. information

Customer : CUMMINS  
Motor : 6 C 8.3 L  
Power KW : 120.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 3.50

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.75  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 93.0

cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 375

Rack travel in mm : 5.20  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + - 0.35

governor spring  
pre-tension  
click setting x : 3.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure

hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 93.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 98.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 9.70  
Rated speed rpm : 1295  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1350  
Tolerance 1/min : + - 15

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1500

##### LOW IDLE

control lever  
position degree : 69.0  
tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 375  
rack travel mm : 4.70

##### Testing:

Rated speed rpm : 375  
rack travel mm : 5.20  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 565  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 10.75  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 11.90  
Tolerance mm : + - 0.10

Rated speed rpm : 600  
rack travel mm : 11.90

Tolerance mm : + - 0.10

Rated speed rpm : 900  
rack travel mm : 11.40  
Tolerance mm : + - 0.10

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 102.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure

hPa : -  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 101.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 9.70  
Rated speed rpm : 1295  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.0  
cm<sup>3</sup>/1000 strokes : + - 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 11.0

---

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 17.09.96  
Test oil : ISO 4113

Combination No. : 9 400 083 451

Injection pump  
Pump designation : PES6A100D320/3RS2691  
: -2  
EP type number : 9 410 230 028

Governor  
Governor design. : RQV350...1100AB1218R  
Governor no. : 9 420 080 214

Cust. part No. :

## Customer-spec. information

Customer : CUMMINS  
Motor : 6 CT/8.3 1  
Power KW : 157.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 3.50

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.65  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 118.0

cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.90  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0

cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1100

guide sleeve  
travel mm : 8.45  
Tolerance mm : ± 0.05

Rated speed rpm : 800

guide sleeve  
travel mm : 5.75  
Tolerance mm : ± 0.15

Rated speed rpm : 350

guide sleeve  
travel mm : 2.40  
Tolerance mm : ± 0.20

Rated speed rpm : 500

guide sleeve  
travel mm : 4.05  
Tolerance mm : ± 0.15

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1090

Rack travel in mm : 16.50  
Tolerance mm : ± 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 63.0  
tolerance degree : ± 4.0

control lever  
position degree : 118.0  
tolerance degree : ± 4.0

##### RATED SPEED

rack travel mm : 11.60  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1255  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1370

##### LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : ± 4.0

control lever  
position degree : 15.0  
tolerance degree : ± 4.0

##### Testing:

Rated speed rpm : 350  
rack travel mm : 5.90  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 9.00

Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.65  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 13.65  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 13.40  
Tolerance mm : + - 0.10

Rated speed rpm : 950  
rack travel mm : 12.95  
Tolerance mm : + - 0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 13.65  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 500  
rack travel mm : 0.40  
Tolerance mm : + - 0.10

Pressure hPa : 600  
rack travel mm : 1.35  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check speed 1/min : > 80

Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 800  
Rated speed rpm : 700  
Del. quantity cm3/1000 strokes : 133.0  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.0  
Spread cm3/1000 strokes : 5.0  
Check tolerance cm3/1000S. : 8.0

Aneroid pressure hPa : 800  
Rated speed rpm : 800  
Del. quantity cm3/1000 strokes : 129.5  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.0  
Spread cm3/1000 strokes : 5.0  
Check tolerance cm3/1000S. : 8.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 94.5  
cm3/1000 strokes : + - 1.0  
Check tolerance cm3/1000S. : + - 3.0  
Spread cm3/1000 strokes : 3.5  
Check tolerance cm3/1000S. : 8.0

#### BREAKAWAY

Rack travel in mm : 11.60  
Rated speed rpm : 1145  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

Del. quantity  
cm<sup>3</sup>/1000 strokes : 171.0  
cm<sup>3</sup>/1000 strokes : + - 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 11.0

---

LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.04.96  
Test oil : ISO 4113

Combination No. : 9 400 083 454

Injection pump  
Pump designation : PES6A100D320/3RS2691  
EP type number : 9 410 230 025

Governor  
Governor design. : RSV400...900A7C2209  
: -1R  
Governor no. : 9 420 083 232

Cust. part. No. :

### Customer-spec. information

Customer : CUMMINS  
Motor : 6 CT 8.3

### TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### Start of delivery blocking

\*NW after s.o.d. : 10.00  
Tolerance : + 0.10  
Check  
tolerance \*NW : + 0.23

Barrel no. : 1

### Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference \* CS : 3.50

### BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.75  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 129.5

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 400

Rack travel in mm : 5.70  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5

cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5

Spread  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + - 0.35

governor spring  
pre-tension  
click setting x : 5.25

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
Aneroid pressure

hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 129.5

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER  
control lever  
position degree : 108.0  
tolerance degree : + - 4.0

#### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 943  
rack travel mm : 11.70

Rated speed rpm : 979  
Tolerance 1/min : + - 2  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1100

Rated speed rpm : 944  
rack travel mm : 11.70

Rated speed rpm : 980  
Tolerance 1/min : + - 2  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1100

Rated speed rpm : 945  
rack travel mm : 11.70

Rated speed rpm : 981  
Tolerance 1/min : + - 2  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1100

Rated speed rpm : 946  
rack travel mm : 11.70

Rated speed rpm : 982  
Tolerance 1/min : + - 2  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55

Rated speed rpm : 1100  
 Rated speed rpm : 947  
 rack travel mm : 11.70  
 Rated speed rpm : 983  
 Tolerance 1/min :  $\pm$  2  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 1100  
 Rated speed rpm : 948  
 rack travel mm : 11.70  
 Rated speed rpm : 984  
 Tolerance 1/min :  $\pm$  2  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 1100

#### LOW IDLE

control lever  
 position degree : 77.0  
 tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 400  
 rack travel mm : 5.20

#### Testing:

Rated speed rpm : 400  
 rack travel mm : 5.70  
 Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
 Rated speed rpm : 440  
 Tolerance 1/min :  $\pm$  30

Rated speed rpm : 100

CRT mm min. : > 19.00

#### TORQUE CONTROL

Rated speed rpm : 900  
 rack travel mm : 12.75  
 Tolerance mm :  $\pm$  0.05

Rated speed rpm : 550  
 rack travel mm : 12.80

Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 400  
 rack travel mm : 14.30  
 Tolerance mm :  $\pm$  0.30

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 20.00  
 Tolerance mm :  $\pm$  1.00  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 142.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  11.0

#### LOW IDLE

Rated speed rpm : 400  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 18.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spred  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.09.96  
Test oil : ISO 4113

Combination No. : 9 400 083 462

Injection pump  
Pump designation : PES6A100D320/3RS2691  
: -5  
EP type number : 9 400 084 031

Governor  
Governor design. : RSV400...900A7C2209  
: -3R  
Governor no. : 9 420 083 262

Cust. part No. : 3354950

## Customer-spec. information

Customer : CUMMINS  
Motor : 6 CT 8.3 L  
Power KW : 154.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 3.50

## BASIC SETTING

Rated speed rpm : 860

Rack travel in mm : 13.35  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 142.5  
cm³/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0  
 Rated speed rpm : 400  
 Rack travel in mm : 5.80  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 20.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 860  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 142.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever position degree : 111.0  
 tolerance degree : + 4.0

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm	:	928
rack travel mm	:	12.30
Rated speed rpm	:	977
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	929
rack travel mm	:	12.30
Rated speed rpm	:	978
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	930
rack travel mm	:	12.30
Rated speed rpm	:	979
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	931
rack travel mm	:	12.30
Rated speed rpm	:	980
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	932
rack travel mm	:	12.30
Rated speed rpm	:	981
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85

Tolerance mm : + 0.55  
Rated speed rpm : 1100  
rack travel mm : 12.30  
rack travel mm : 4.00  
rack travel mm : 0.85  
Tolerance mm : + 0.55

---

#### LOW IDLE

control lever  
position degree : 80.0  
tolerance degree : + 4.0  
Setting point w/out bumper spring  
Rated speed rpm : 400  
rack travel mm : 5.30  
Testing:  
Rated speed rpm : 400  
rack travel mm : 5.80  
Tolerance mm : + 0.10  
rack travel mm : 2.00  
Rated speed rpm : 445  
Tolerance 1/min : + 30  
Rated speed rpm : 100  
CRT mm min. : > 19.00

---

#### TORQUE CONTROL

Rated speed rpm : 860  
rack travel mm : 13.35  
Tolerance mm : + 0.05  
Rated speed rpm : 600  
rack travel mm : 13.40  
Tolerance mm : + 0.10  
Rated speed rpm : 450  
rack travel mm : 14.00  
Tolerance mm : + 0.30

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
cm<sup>3</sup>/1000 strokes : + 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 11.0

---

#### LOW IDLE

Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.09.96  
Test oil : ISO 4113

Combination No. : 9 400 085 257

Injection pump  
Pump designation : PES4A80D320RS1282  
EP type number : 9 400 083 056

Governor  
Governor design. : RSV350...1100A2C2129  
: -6R  
Governor no. : 9 420 083 270

Cust. part No. :

### Customer-spec. information

Customer : MWM  
Motor : D 229-4

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.50

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 8.75  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0

Spread

cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance cm<sup>3</sup>/1000S. : 4.0  
 Rated speed rpm : 350  
 Rack travel in mm : 6.50  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 11.5  
 cm<sup>3</sup>/1000 strokes : + - 1.5  
 Check tolerance cm<sup>3</sup>/1000S. : + - 3.5  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + - 0.35  
 governor spring pre-tension click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 49.0  
 cm<sup>3</sup>/1000 strokes : + - 0.5  
 Check tolerance cm<sup>3</sup>/1000S. : + - 2.0  
 Spread cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance cm<sup>3</sup>/1000S. : 4.0

##### CONTROL LEVER

control lever position degree : 98.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm	:	7.70
Rated speed rpm	:	1145
Tolerance 1/min	:	+ - 5
rack travel mm	:	4.00
Rated speed rpm	:	1195
Tolerance 1/min	:	+ - 15
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	1300

##### LOW IDLE

control lever position degree : 76.0  
 tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 6.00

##### Testing:

Rated speed rpm	:	350
rack travel mm	:	6.50
Tolerance mm	:	+ - 0.10
rack travel mm	:	2.00
Rated speed rpm	:	635
Tolerance 1/min	:	+ - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm	:	1100
rack travel mm	:	8.75
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	500
rack travel mm	:	10.05
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	900
rack travel mm	:	9.25
Tolerance mm	:	+ - 0.15

---

### FUEL DELIVERY CHARACTERISTICS

---

#### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

#### Aneroid pressure

hPa : -  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

### BREAKAWAY

Rack travel in mm : 7.70  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00

---

### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.09.96  
Test oil :

Combination No. : 9 400 085 266

Injection pump  
Pump designation : PES6A95D410RS2751  
EP type number : 9 400 084 013

Governor  
Governor design. : RSV650...1250A8C2231  
: L  
Governor no. : 9 420 083 229

Cust. part No. :

## Customer-spec. information

Customer : FORD  
Motor : 6,6 L NA  
Power KW : 101.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 017

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.20  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 6.50

## BASIC SETTING

Rated speed rpm : 1220

Rack travel in mm : 11.05  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 82.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 650

Rack travel in mm : 6.80  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + - 0.35

governor spring  
pre-tension  
click setting x : 3.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1220  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 82.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 101.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 10.00  
Rated speed rpm : 1268  
Tolerance 1/min : + - 3

rack travel mm : 4.00  
Rated speed rpm : 1298  
Tolerance 1/min : + - 3

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1420

##### LOW IDLE

control lever  
position degree : 76.0  
tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 6.30

##### Testing:

Rated speed rpm : 650  
rack travel mm : 6.80  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 760  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1220  
rack travel mm : 11.05  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 11.05  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 71.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 10.00  
Rated speed rpm : 1268  
Tolerance 1/min : + - 3

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
cm<sup>3</sup>/1000 strokes : + - 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 11.0

---

#### LOW IDLE

Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.09.96  
Test oil : ISO 4113

Combination No. : 9 400 085 270

Injection pump  
Pump designation : PES6A90D320RS2718  
EP type number : 9 400 084 003

Governor  
Governor design. : RSV350...1400A2B2215  
: -1R  
Governor no. : 9 420 083 231

Cust. part No. :

---

Customer-spec. information  
Customer : MWM  
Motor : D229/6

---

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.75  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Beginning of delivery difference  
and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 3.50

### BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 8.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spred  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 5.50  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + - 0.35

governor spring  
pre-tension  
click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.0  
cm<sup>3</sup>/1000 strokes : + - 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 2.5  
Spred  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever  
position degree : 59.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 7.50  
Rated speed rpm : 1445  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1490  
Tolerance 1/min : + - 15

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1650

##### LOW IDLE

control lever  
position degree : 25.0  
tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 5.00

##### Testing:

Rated speed rpm : 350  
rack travel mm : 5.50  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 590  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 8.55  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 9.15  
Tolerance mm : + - 0.05

Rated speed rpm : 900  
rack travel mm : 8.95

Tolerance mm : + 0.15

Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
Spread cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance cm<sup>3</sup>/1000S. : 7.0

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 57.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance cm<sup>3</sup>/1000S. : + 3.5  
Spread cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

##### Aneroid pressure

hPa : -  
Rated speed rpm : 900  
Del. quantity cm<sup>3</sup>/1000 strokes : 65.0  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance cm<sup>3</sup>/1000S. : + 3.5  
Spread cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 7.50  
Rated speed rpm : 1445  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
cm<sup>3</sup>/1000 strokes : + 2.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.09.96  
Test oil : ISO 4113

Combination No. : 9 400 085 283

Injection pump  
Pump designation : PES6A90D410RS2293  
EP type number : 0 410 896 031

Governor  
Governor design. : RSV350...1250A0C1150  
: -3L  
Governor no. : 9 420 083 255

Cust. part No. :

### Customer-spec. information

Customer : MBB  
Motor : OM 352-A

### TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.20  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.05  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 7.20

Tolerance mm : + - 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 12.0

cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 4.0

Spred

cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance

cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : + - 0.35

governor spring

pre-tension

click setting x : 3.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 62.0

cm<sup>3</sup>/1000 strokes : + - 0.5

Check tolerance

cm<sup>3</sup>/1000S. : + - 2.5

Spred

cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance

cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever

position degree : 104.0

tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 9.00

Rated speed rpm : 1295

Tolerance 1/min : + - 5

rack travel mm : 4.00

Rated speed rpm : 1350

Tolerance 1/min : + - 15

rack travel mm : 0.85

Tolerance mm : + - 0.55

Rated speed rpm : 1450

##### LOW IDLE

control lever

position degree : 76.0

tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350

rack travel mm : 6.70

##### Testing:

Rated speed rpm : 350

rack travel mm : 7.20

Tolerance mm : + - 0.10

rack travel mm : 2.00

Rated speed rpm : 460

Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1250

rack travel mm : 10.05

Tolerance mm : + - 0.05

Rated speed rpm : 500

rack travel mm : 10.10

Tolerance mm : + - 0.10

Rated speed rpm : 400

rack travel mm : 11.50

Tolerance mm : + - 0.30

##### BREAKAWAY

Rack travel in mm : 9.00  
Rated speed rpm : 1295  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 200  
rack travel mm : 14.50  
Tolerance mm : + 0.30

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.09.96  
Test oil : ISO 4113

Combination No. : 9 400 085 286

Injection pump  
Pump designation : PES6A90D320RS2701  
EP type number : 9 400 083 094

Governor  
Governor design. : RSV350...1150A2B2097  
: -2R  
Governor no. : 9 420 083 224

Cust. part No. :

### Customer-spec. information

Customer : MWM  
Motor : D 229-6  
Power KW : 81.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.70  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Beginning of delivery difference  
and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 4.50

### BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 9.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000s. : + 2.5

Spred  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 6.00  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.5

cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + - 0.35

governor spring  
pre-tension  
click setting x : 4.25

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 62.5

cm<sup>3</sup>/1000 strokes : + - 0.5

Check tolerance

cm<sup>3</sup>/1000S. : + - 2.5

Spred

cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance

cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever  
position degree : 46.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 8.20  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1245  
Tolerance 1/min : + - 15

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1400

##### LOW IDLE

control lever  
position degree : 20.0  
tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 5.50

##### Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 600  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 9.25  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 9.85  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 9.55

Tolerance mm : + - 0.15

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spred  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 54.5  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.5  
Spred  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

##### Aneroid pressure

hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.5  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.5  
Spred  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 8.20  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.5  
cm<sup>3</sup>/1000 strokes : + - 2.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.09.96  
Test oil : ISO 4113

Combination No. : 9 400 085 297

Injection pump  
Pump designation : PES6A95D410RS2758-1  
EP type number : 9 400 084 015

Governor  
Governor design. : RQV350...1200AB1220  
: -2L  
Governor no. : 9 420 080 252

Cust. part No. :

### Customer-spec. information

Customer : FORD  
Motor : 6,6 L TC  
Power KW : 138.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 017

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 14.05  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 109.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.80  
Tolerance mm : + - 0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 22.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
Spread cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1200  
guide sleeve travel mm : 7.80  
Tolerance mm : + - 0.10

Rated speed rpm : 350  
guide sleeve travel mm : 1.90  
Tolerance mm : + - 0.20

Rated speed rpm : 700  
guide sleeve travel mm : 4.30  
Tolerance mm : + - 0.20

Rated speed rpm : 500  
guide sleeve travel mm : 3.30  
Tolerance mm : + - 0.20

Rated speed rpm : 270  
guide sleeve travel mm : 1.00  
Tolerance mm : + - 0.20

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1400

Rack travel in mm : 7.90  
Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure hPa : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 109.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 3.0  
Spread cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever position degree : 61.0  
tolerance degree : + - 4.0

control lever position degree : 117.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 13.00  
Rated speed rpm : 1250  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1395  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1500

##### LOW IDLE

control lever position degree : 71.0  
tolerance degree : + - 4.0

control lever position degree : 16.0  
tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 350  
rack travel mm : 6.80  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 10.00

Rated speed rpm : 395  
rack travel mm : > 10.00

#### TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 14.05  
Tolerance mm : + - 0.05

Rated speed rpm : 850  
rack travel mm : 14.05  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 14.05  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 490  
rack travel mm : 3.40  
Tolerance mm : + - 0.20

Pressure hPa : 355  
rack travel mm : 1.55  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check speed 1/min : > 80  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 700  
Rated speed rpm : 850

Del. quantity cm3/1000 strokes : 105.0  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.0

Spread cm3/1000 strokes : 5.0  
Check tolerance cm3/1000S. : 8.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 54.0  
cm3/1000 strokes : + - 1.0  
Check tolerance cm3/1000S. : + - 3.0  
Spread cm3/1000 strokes : 3.5  
Check tolerance cm3/1000S. : 8.0

#### BREAKAWAY

Rack travel in mm : 13.00  
Rated speed rpm : 1250  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity cm3/1000 strokes : 160.0  
cm3/1000 strokes : + - 7.5  
Check tolerance cm3/1000S. : + - 10.0

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity cm3/1000 strokes : 22.0  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.5  
Spread cm3/1000 strokes : 5.5  
Check tolerance cm3/1000S. : 9.0

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End of test specification sheet



## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.09.96  
Test oil :

Combination No. : 9 400 085 299

Injection pump  
Pump designation : PES6A95D410RS2751  
EP type number : 9 400 084 013

Governor  
Governor design. : RSV650...1250A8C2231  
: -2L  
Governor no. : 9 420 083 236

Cust. part No. :

### Customer-spec. information

Customer : FORD  
Motor : 6,6 L TC  
Power KW : 123.8

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 017

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.20  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 6.50

### BASIC SETTING

Rated speed rpm : 1220

Rack travel in mm : 12.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 650

Rack travel in mm : 6.80  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + 0.35

governor spring  
pre-tension  
click setting x : 3.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1220  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 101.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 11.50  
Rated speed rpm : 1268  
Tolerance 1/min : + - 3

rack travel mm : 4.00  
Rated speed rpm : 1303  
Tolerance 1/min : + - 3

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1420

##### LOW IDLE

control lever  
position degree : 76.0  
tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 6.30

##### Testing:

Rated speed rpm : 650  
rack travel mm : 6.80  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 760  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1220  
rack travel mm : 12.55  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 12.55  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 11.50  
Rated speed rpm : 1268  
Tolerance 1/min : + 3

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
cm<sup>3</sup>/1000 strokes : + 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 11.0

---

#### LOW IDLE

Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 306

Injection pump  
Pump designation : PES6A90D410RS2596  
EP type number : 0 410 896 073

Governor  
Governor design. : RQV300...1400AB1066  
: -7L  
Governor no. : 9 420 080 267

Cust. part No. : 0180742402

### Customer-spec. information

Customer : MBB  
Motor : OM352A  
Power KW : 121.4

### TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.05  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 12.45  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 78.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance cm<sup>3</sup>/1000S. : + 2.5

Speed cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 300

Rack travel in mm : 9.00  
Tolerance mm : + - 0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
Spred cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve travel mm : 1.05  
Tolerance mm : + - 0.25

Rated speed rpm : 1500  
guide sleeve travel mm : 8.55  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
guide sleeve travel mm : 2.55  
Tolerance mm : + - 0.25

Rated speed rpm : 750  
guide sleeve travel mm : 4.20  
Tolerance mm : + - 0.10

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50  
Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Aneroid pressure hPa : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 78.0  
cm<sup>3</sup>/1000 strokes : + - 0.5

Check tolerance cm<sup>3</sup>/1000S. : + - 2.5  
Spred cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever position degree : 64.0  
tolerance degree : + - 4.0

control lever position degree : 114.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 11.50  
Rated speed rpm : 1445  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1590  
Tolerance 1/min : + - 20

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1750

##### LOW IDLE

control lever position degree : 71.0  
tolerance degree : + - 4.0

control lever position degree : 21.0  
tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300  
rack travel mm : 9.00  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 10.30

Rated speed rpm : 620

##### TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 12.45  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 13.25  
Tolerance mm : + - 0.05

Rated speed rpm : 1000  
rack travel mm : 12.80  
Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 13.25  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 12.35  
Tolerance mm : + - 0.05

Rated speed rpm : 500

Pressure hPa : 375  
rack travel mm : 12.60  
Tolerance mm : + - 0.10

Pressure hPa : 465  
rack travel mm : 12.95  
Tolerance mm : + - 0.05

---

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 700  
Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 66.5  
cm3/1000 strokes : + - 1.5  
Check tolerance cm3/1000S. : + - 3.5

Aneroid pressure hPa : 700  
Rated speed rpm : 1000  
Del. quantity cm3/1000 strokes : 76.5  
cm3/1000 strokes : + - 1.5  
Check tolerance cm3/1000S. : + - 3.5

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 57.5  
cm3/1000 strokes : + - 0.5  
Check tolerance cm3/1000S. : + - 2.5

---

##### BREAKAWAY

Rack travel in mm : 11.50  
Rated speed rpm : 1445  
Tolerance 1/min : + - 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.00  
Tolerance mm : + - 0.20  
Del. quantity cm3/1000 strokes : 76.0  
cm3/1000 strokes : + - 7.5  
Check tolerance cm3/1000S. : + - 10.0

---

##### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm3/1000 strokes : 12.0  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.0  
Spread cm3/1000 strokes : 4.5  
Check tolerance cm3/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 01.07.96  
Test oil : ISO 4113

Combination No. : 9 400 085 310

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RQV300...1300AB1066  
: -8L  
Governor no. : 9 420 080 279

Cust. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 366 LA  
Power KW : 155.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.00

Tolerance mm : + - 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 11.0

cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 4.5

Spred

cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance

cm<sup>3</sup>/1000S. : 9.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP

##### WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve

travel mm : 1.05

Tolerance mm : + - 0.25

Rated speed rpm : 1500

guide sleeve

travel mm : 8.55

Tolerance mm : + - 0.05

Rated speed rpm : 500

guide sleeve

travel mm : 2.55

Tolerance mm : + - 0.25

Rated speed rpm : 750

guide sleeve

travel mm : 4.20

Tolerance mm : + - 0.10

##### CONTROL LEVER

control lever

position degree : 109.0

tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 10.10

Rated speed rpm : 1365

Tolerance 1/min : + - 5

rack travel mm : 4.00

Rated speed rpm : 1500

Tolerance 1/min : + - 15

rack travel mm : 0.50

Tolerance mm : + - 0.50

Rated speed rpm : 1650

##### LOW IDLE

control lever

position degree : 68.0

tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300

rack travel mm : 7.00

Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

##### TORQUE CONTROL

Rated speed rpm : 1300

rack travel mm : 11.15

Tolerance mm : + - 0.05

Rated speed rpm : 700

rack travel mm : 11.15

Tolerance mm : + - 0.05

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50

Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure

hPa : 700

Del. quantity

cm<sup>3</sup>/1000 strokes : 99.0

cm<sup>3</sup>/1000 strokes : + - 1.0

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 11.15  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
  
Rated speed rpm : 500  
  
Pressure hPa : 300  
rack travel mm : 0.40  
Tolerance mm : + - 0.10  
  
Pressure hPa : 450  
rack travel mm : 1.05  
Tolerance mm : + - 0.05

---

**START CUT-OUT**

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : 700  
Rated speed rpm : 700  
Del. quantity  
cm3/1000 strokes : 87.5  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.0  
Spread  
cm3/1000 strokes : 5.0  
Check tolerance  
cm3/1000S. : 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 60.5

cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 3.0  
Spread  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 8.0

---

**BREAKAWAY**

Rack travel in mm : 10.10  
Rated speed rpm : 1365  
Tolerance 1/min : + - 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 13.70  
Tolerance mm : + - 0.10  
Del. quantity  
cm3/1000 strokes : 84.0  
cm3/1000 strokes : + - 7.5  
Check tolerance  
cm3/1000S. : + - 10.0

**LOW IDLE**

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 11.0  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.5  
Spread  
cm3/1000 strokes : 5.5  
Check tolerance  
cm3/1000S. : 9.0

---

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 23.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 316

Injection pump  
Pump designation : PES6A95D410RS2795  
EP type number : 9 400 084 020

Governor  
Governor design. : RQV300...1400AB1065  
: -18L  
Governor no. : 9 420 080 278

Cust. part No. :

**Customer-spec. information**

Customer : MBB  
Motor : OM 366  
Power KW : 100.0

**TEST BENCH REQUIREMENTS**

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

**BASIC SETTING**

Rated speed rpm : 1400

Rack travel in mm : 9.95  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 69.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300  
 Rack travel in mm : 7.90  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1500  
 guide sleeve travel mm : 8.55  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 750  
 guide sleeve travel mm : 4.20  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 300  
 guide sleeve travel mm : 1.05  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 500  
 guide sleeve travel mm : 2.55  
 Tolerance mm : + - 0.25

---

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm : + - 1.30

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 69.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance cm<sup>3</sup>/1000S. : + - 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

##### CONTROL LEVER

control lever position degree : 62.0  
 tolerance degree : + - 4.0  
 control lever position degree : 110.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 8.90  
 Rated speed rpm : 1465  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1560  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1680

---

##### LOW IDLE

control lever position degree : 70.0  
 tolerance degree : + - 4.0

control lever position degree : 21.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 7.90  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 8.00  
 Rated speed rpm : 555

---

##### TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 9.95  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 600  
rack travel mm : 9.95  
Tolerance mm :  $\pm$  0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 250

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 270

---

End of test specification sheet

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.5  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### BREAKAWAY

Rack travel in mm : 8.90  
Rated speed rpm : 1465  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.10  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 84.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

#### LOW IDLE

Rated speed rpm : 300

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 327

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RSV350...1250A0C1150  
: -4L  
Governor no. : 9 420 083 256

Cust. part No. :

### Customer-spec. information

Customer : MBB  
Motor : OM 366 A  
Power KW : 121.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 9.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 82.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350  
 Rack travel in mm : 6.80  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 15.0  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + - 0.35  
 governor spring pre-tension  
 click setting x : 3.25

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 82.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever position degree : 103.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 8.60  
 Rated speed rpm : 1295

Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1340  
 Tolerance 1/min : + - 15  
 rack travel mm : 1.00  
 Tolerance mm : + - 0.70  
 Rated speed rpm : 1500

##### LOW IDLE

control lever position degree : 75.0  
 tolerance degree : + - 4.0  
 Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 6.30

##### Testing:

Rated speed rpm : 350  
 rack travel mm : 6.80  
 Tolerance mm : + - 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 450  
 Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 9.65  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 800  
 rack travel mm : 9.65  
 Tolerance mm : + - 0.05

Rated speed rpm : 500  
 rack travel mm : 9.70  
 Tolerance mm : + - 0.10

Rated speed rpm : 400  
 rack travel mm : 11.10  
 Tolerance mm : + - 0.30

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 74.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 8.60  
Rated speed rpm : 1295  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.00  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 13.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 23.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 333

Injection pump  
Pump designation : PES4A95D410RS2805  
EP type number : 9 400 084 026

Governor  
Governor design. : RQV300...1400AB1065  
: -21L  
Governor no. : 9 420 080 303

Cust. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 364  
Power KW : 66.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.75  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 69.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.50  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 8.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : + 0.10

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : + 0.25

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : + 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 69.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread

cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 62.0  
 tolerance degree : + 4.0

control lever  
 position degree : 111.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.70  
 Rated speed rpm : 1465  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1555  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1680

LOW IDLE

control lever  
 position degree : 69.0  
 tolerance degree : + 4.0

control lever  
 position degree : 20.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.50  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 7.50

Rated speed rpm : 555

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 9.75

Tolerance mm : + 0.05  
Rated speed rpm : 700  
rack travel mm : 9.75  
Tolerance mm : + 0.05

Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
Spred cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 250

Check speed 1/min : > 80  
Check speed 1/min : < 270

---

End of test specification sheet

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 56.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 8.70  
Rated speed rpm : 1465  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.90  
Tolerance mm : + 0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 84.0  
cm<sup>3</sup>/1000 strokes : + 7.5  
Check tolerance cm<sup>3</sup>/1000S. : + 10.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm<sup>3</sup>/1000 strokes : 8.0  
cm<sup>3</sup>/1000 strokes : + 2.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.09.96  
Test oil : ISO 4113

Combination No. : 9 400 085 336

Injection pump  
Pump designation : PES6A95D410RS2812  
EP type number : 9 400 084 028

Governor  
Governor design. : RQV350...1400AB1261L  
Governor no. : 9 420 080 307

Cust. part No. : 9.0520.05.6.9502

### Customer-spec. information

Customer : MWM  
Motor : D 610 / X-10  
Power KW : 110.7

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 2.80  
Tolerance mm : + - 0.05  
Check tolerance mm : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + - 1.50  
Difference ° CS : 2.00

### BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.75  
Tolerance mm : + - 0.05

Del. quantity  
cm³/1000 strokes : 71.0

cm³/1000 strokes : + - 1.0

Check tolerance  
cm³/1000s. : + - 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.50  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5

cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350  
guide sleeve

travel mm : 7.20  
Tolerance mm : + - 0.10

Rated speed rpm : 800  
guide sleeve

travel mm : 3.95  
Tolerance mm : + - 0.25

Rated speed rpm : 300  
guide sleeve

travel mm : 1.05  
Tolerance mm : + - 0.25

Rated speed rpm : 550  
guide sleeve

travel mm : 2.75  
Tolerance mm : + - 0.25

Rated speed rpm : 1500  
guide sleeve

travel mm : 8.55  
Tolerance mm : + - 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1490

Rack travel in mm : 16.50

Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 71.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever

position degree : 58.0

tolerance degree : + - 4.0

control lever

position degree : 113.0

tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 8.70

Rated speed rpm : 1445

Tolerance 1/min : + - 5

rack travel mm : 4.00

Rated speed rpm : 1540

Tolerance 1/min : + - 15

rack travel mm : 0.50

Tolerance mm : + - 0.50

Rated speed rpm : 1680

##### LOW IDLE

control lever

position degree : 68.0

tolerance degree : + - 4.0

control lever

position degree : 13.0

tolerance degree : + - 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 5.50  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 6.50  
 Rated speed rpm : 425

---

#### TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 9.75  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 700  
 rack travel mm : 10.05  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 1000  
 rack travel mm : 10.05  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 1300  
 rack travel mm : 9.75  
 Tolerance mm : + - 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
 Rated speed rpm : < 270  
 Check speed 1/min : > 80  
 Check speed 1/min : < 290

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
 Rated speed rpm : 700  
 Del. quantity cm3/1000 strokes : 62.5  
 cm3/1000 strokes : + - 2.0  
 Check tolerance cm3/1000S. : + - 4.0  
 Spread cm3/1000 strokes : 5.0  
 Check tolerance cm3/1000S. : 8.0

---

Aneroid pressure hPa : -  
 Rated speed rpm : 1000

Del. quantity cm3/1000 strokes : 72.0  
 cm3/1000 strokes : + - 2.0  
 Check tolerance cm3/1000S. : + - 4.0  
 Spread cm3/1000 strokes : 5.0  
 Check tolerance cm3/1000S. : 8.0

---

#### BREAKAWAY

Rack travel in mm : 8.70  
 Rated speed rpm : 1445  
 Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 20.00  
 Tolerance mm : + - 1.00

---

#### LOW IDLE

Rated speed rpm : 350  
 Del. quantity cm3/1000 strokes : 11.5  
 cm3/1000 strokes : + - 2.0  
 Check tolerance cm3/1000S. : + - 4.5  
 Spread cm3/1000 strokes : 5.5  
 Check tolerance cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 337

Injection pump  
Pump designation : PES6A95D410RS2812  
EP type number : 9 400 084 028

Governor  
Governor design. : RQV350...1300AB1260L  
Governor no. : 9 420 080 306

Cust. part No. : 9.0520.05.6.9501

## Customer-spec. information

Customer : MWM  
Motor : TD 610 / X-10  
Power KW : 143.9

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 2.80  
Tolerance mm : + - 0.05  
Check  
tolerance mm : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Beginning of delivery difference  
and maximum rack  
travel : 10.50  
Tolerance mm : + - 1.50  
Difference ° CS : 2.00

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.05  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 94.5

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.50  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.5

cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350  
guide sleeve  
travel mm : 7.20  
Tolerance mm : + - 0.10

Rated speed rpm : 800  
guide sleeve  
travel mm : 3.95  
Tolerance mm : + - 0.25

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.05  
Tolerance mm : + - 0.25

Rated speed rpm : 550  
guide sleeve  
travel mm : 2.75  
Tolerance mm : + - 0.25

Rated speed rpm : 1500  
guide sleeve  
travel mm : 8.55  
Tolerance mm : + - 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1490

Rack travel in mm : 16.50

Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure

hPa : 800

Del. quantity

cm<sup>3</sup>/1000 strokes : 94.5

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 3.0

Spred

cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance

cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever

position degree : 56.0

tolerance degree : + - 4.0

control lever

position degree : 111.0

tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 11.00

Rated speed rpm : 1345

Tolerance 1/min : + - 5

rack travel mm : 4.00

Rated speed rpm : 1505

Tolerance 1/min : + - 15

rack travel mm : 0.50

Tolerance mm : + - 0.50

Rated speed rpm : 1650

##### LOW IDLE

control lever

position degree : 67.0

tolerance degree : + - 4.0

control lever

position degree : 12.0

tolerance degree : + - 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 5.50  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 6.50

Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 12.05  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 12.35  
Tolerance mm : + - 0.05

Rated speed rpm : 850  
rack travel mm : 12.35  
Tolerance mm : + - 0.05

Rated speed rpm : 1150  
rack travel mm : 12.05  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 12.35  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
  
Rated speed rpm : 500  
  
Pressure hPa : 190  
rack travel mm : 0.45  
Tolerance mm : + - 0.05  
  
Pressure hPa : 460  
rack travel mm : 1.55  
Tolerance mm : + - 0.15

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check speed 1/min : > 80  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 800  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 95.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 59.5  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1345  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity cm<sup>3</sup>/1000 strokes : 10.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
Spread cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 10.05.96  
Test oil : ISO 4113

Combination No. : 9 400 085 339

Injection pump  
Pump designation : PES4A95D410RS2774  
EP type number : 9 400 084 019

Governor  
Governor design. : RQV300...1300AB1066  
: -11L  
Governor no. : 9 420 080 309

Cust. part No. : 0200742602

### Customer-spec. information

Customer : MBB  
Motor : OM 364 LA  
Power KW : 100.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 103.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.00  
 Tolerance mm : + 0.10  
 Det. quantity  
 cm<sup>3</sup>/1000 strokes : 9.5  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350  
 guide sleeve  
 travel mm : 8.20  
 Tolerance mm : + 0.10

Rated speed rpm : 1000  
 guide sleeve  
 travel mm : 5.75  
 Tolerance mm : + 0.25

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : + 0.25

Rated speed rpm : 700  
 guide sleeve  
 travel mm : 4.25  
 Tolerance mm : + 0.25

Rated speed rpm : 1450  
 guide sleeve  
 travel mm : 9.15  
 Tolerance mm : + 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1395

Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 800

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 103.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
 position degree : 63.0  
 tolerance degree : + 4.0

control lever  
 position degree : 112.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.50  
 Rated speed rpm : 1360  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1475  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1630

##### LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : + 4.0

control lever  
 position degree : 20.0  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 9.00

Rated speed rpm : 525

---

#### TORQUE CONTROL

Rated speed rpm	:	1300
rack travel mm	:	11.55
Tolerance mm	:	+ 0.05
Rated speed rpm	:	700
rack travel mm	:	11.85
Tolerance mm	:	+ 0.05
Rated speed rpm	:	1100
rack travel mm	:	11.75
Tolerance mm	:	+ 0.05
Rated speed rpm	:	950
rack travel mm	:	11.85
Tolerance mm	:	+ 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm	:	500
Pressure hPa	:	800
rack travel mm	:	11.85
Tolerance mm	:	+ 0.05

---

##### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500
Rated speed rpm	:	500
Pressure hPa	:	500
rack travel mm	:	1.45
Tolerance mm	:	+ 0.15
Pressure hPa	:	380
rack travel mm	:	0.40
Tolerance mm	:	+ 0.10

---

##### START CUT-OUT

Rated speed rpm	:	> 100
Rated speed rpm	:	< 250
Check speed 1/min	:	> 80
Check speed 1/min	:	< 270

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	800
Rated speed rpm	:	700
Del. quantity cm <sup>3</sup> /1000 strokes	:	97.5
cm <sup>3</sup> /1000 strokes	:	+ 2.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 4.0
Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm <sup>3</sup> /1000 strokes	:	59.0
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 3.0

---

##### BREAKAWAY

Rack travel in mm	:	10.50
Rated speed rpm	:	1360
Tolerance 1/min	:	+ 5

---

##### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	13.40
Tolerance mm	:	+ 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	:	86.0
cm <sup>3</sup> /1000 strokes	:	+ 7.5
Check tolerance cm <sup>3</sup> /1000S.	:	+ 10.0

---

##### LOW IDLE

Rated speed rpm	:	300
Del. quantity cm <sup>3</sup> /1000 strokes	:	9.5
cm <sup>3</sup> /1000 strokes	:	+ 2.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 4.5
Spread cm <sup>3</sup> /1000 strokes	:	5.5
Check tolerance cm <sup>3</sup> /1000S.	:	9.0

---

End of test specification sheet



## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 09.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 340

Injection pump  
Pump designation : PES6A95D410RS2795  
EP type number : 9 400 084 020

Governor  
Governor design. : RSV350...1250A0C1150  
: -5L  
Governor no. : 9 420 083 258

Cust. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 366  
Power KW : 94.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 8.65  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 63.5

cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 3.0

Spread  
cm3/1000 strokes : 3.5

Check tolerance  
cm3/1000S. : 8.0

Rated speed rpm : 350  
 Rack travel in mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 12.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.5  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm :  $\pm$  0.35  
 governor spring pre-tension  
 click setting x : 5.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 63.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

---

CONTROL LEVER

control lever position degree : 110.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 7.60  
 Rated speed rpm : 1295

Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1347  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 1500

---

LOW IDLE

control lever position degree : 82.0  
 tolerance degree :  $\pm$  4.0

Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 6.50

Testing:

Rated speed rpm : 350  
 rack travel mm : 7.00  
 Tolerance mm :  $\pm$  0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 475  
 Tolerance 1/min :  $\pm$  30

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 8.65  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 500  
 rack travel mm : 8.70  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 400  
 rack travel mm : 10.10  
 Tolerance mm :  $\pm$  0.30

---

BREAKAWAY

Rack travel in mm : 7.60  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.20  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 101.5  
cm<sup>3</sup>/1000 strokes : +- 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 10.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 09.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 341

Injection pump  
Pump designation : PES4A95D410RS2805  
EP type number : 9 400 084 026

Governor  
Governor design. : RSV350...1300A0C1150  
: -6L  
Governor no. : 9 420 083 257

Cust. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 364  
Power KW : 60.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 9.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 7.50  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 9.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

#### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring  
 pre-tension  
 click setting x : 4.75

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 59.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

---

#### CONTROL LEVER

control lever  
 position degree : 111.0  
 tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 8.40  
 Rated speed rpm : 1345  
 Tolerance 1/min : + 5

+ rack travel mm : 4.00  
 Rated speed rpm : 1405  
 Tolerance 1/min : + 15  
 + rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1550

---

#### LOW IDLE

control lever  
 position degree : 82.0  
 tolerance degree : + 4.0  
 Setting point w/out bumper spring  
 Rated speed rpm : 350  
 rack travel mm : 7.00  
 Testing:  
 Rated speed rpm : 350  
 rack travel mm : 7.50  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 500  
 Tolerance 1/min : + 30  
 Rated speed rpm : 100  
 CRT mm min. : > 19.00

---

#### TORQUE CONTROL

Rated speed rpm : 1300  
 rack travel mm : 9.45  
 Tolerance mm : + 0.05  
 Rated speed rpm : 500  
 rack travel mm : 9.50  
 Tolerance mm : + 0.10  
 Rated speed rpm : 400  
 rack travel mm : 10.90  
 Tolerance mm : + 0.30

---

#### BREAKAWAY

Rack travel in mm : 8.40

Rated speed rpm : 1345  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.90  
Tolerance mm : + - 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 94.0  
cm<sup>3</sup>/1000 strokes : + - 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 10.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.09.96  
Test oil : ISO 4113

Combination No. : 9 400 084 344

Injection pump  
Pump designation : PESU 95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RSV350...900A7C2076L  
Governor no. : 9 420 083 251

Cust. part No. :

---

Customer-spec. information  
Customer : MBB  
Motor : OM 366A  
Power KW : 107.3

---

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

---

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

---

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

---

Phasing : 0-60-120-180-240  
: -300

---

## BASIC SETTING

---

Rated speed rpm : 860

---

Rack travel in mm : 10.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350  
 Rack travel in mm : 6.00  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 7.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring pre-tension click setting x : 5.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 860  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 86.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever position degree : 108.0  
 tolerance degree : + 4.0

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 905

rack travel mm	:	9.40
Rated speed rpm	:	934
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	906
rack travel mm	:	9.40
Rated speed rpm	:	935
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	907
rack travel mm	:	9.40
Rated speed rpm	:	936
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	908
rack travel mm	:	9.40
Rated speed rpm	:	937
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	909
rack travel mm	:	9.40
Rated speed rpm	:	938
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	910
rack travel mm	:	9.40
Rated speed rpm	:	939
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 84.0  
cm<sup>3</sup>/1000 strokes : + 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 10.0

#### LOW IDLE

control lever  
position degree : 78.0  
tolerance degree : + 4.0

LOW IDLE  
Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 5.50

#### Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

End of test specification sheet

#### TORQUE CONTROL

Rated speed rpm : 860  
rack travel mm : 10.45  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 10.50  
Tolerance mm : + 0.10

Rated speed rpm : 400  
rack travel mm : 11.30  
Tolerance mm : + 0.30

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.80  
Tolerance mm : + 0.10

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 346

Injection pump  
Pump designation : PES4A95D410RS2805  
EP type number : 9 400 084 026

Governor  
Governor design. : RSV350...900A7C2076  
: -2L  
Governor no. : 9 420 083 253

Just. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 364  
Power KW : 46.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

## BASIC SETTING

Rated speed rpm : 860

Rack travel in mm : 8.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 58.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.50  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 7.5  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20  
 governor spring  
 pre-tension  
 click setting x : 6.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 860  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 58.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 112.0  
 tolerance degree : + - 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 910  
 rack travel mm : 7.60

Rated speed rpm	:	935
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	911
rack travel mm	:	7.60
Rated speed rpm	:	936
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	912
rack travel mm	:	7.60
Rated speed rpm	:	937
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	913
rack travel mm	:	7.60
Rated speed rpm	:	938
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	914
rack travel mm	:	7.60
Rated speed rpm	:	939
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	1100
Rated speed rpm	:	915
rack travel mm	:	7.60
Rated speed rpm	:	940
Tolerance 1/min	:	+ - 4
rack travel mm	:	4.00
rack travel mm	:	0.85

Tolerance mm : + - 0.55  
Rated speed rpm : 1100

---

#### LOW IDLE

control lever  
position degree : 82.0  
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 6.00

Testing:

Rated speed rpm : 350  
rack travel mm : 6.50  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 410  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

---

#### TORQUE CONTROL

Rated speed rpm : 860  
rack travel mm : 8.65  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 8.70  
Tolerance mm : + - 0.10

Rated speed rpm : 400  
rack travel mm : 9.60  
Tolerance mm : + - 0.30

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.40  
Tolerance mm : + - 0.10  
Del. quantity  
cm3/1000 strokes : 84.0  
cm3/1000 strokes : + - 7.5

Check tolerance  
cm3/1000S. : + - 10.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm3/1000 strokes : 7.5  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.5  
Spread  
cm3/1000 strokes : 5.5  
Check tolerance  
cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 23.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 348

Injection pump  
Pump designation : PES6A95D410RS2812  
EP type number : 9 400 084 028

Governor  
Governor design. : RSV350...900A7C805L  
Governor no. : 9 420 083 263

Cust. part No. : 9.0520.05.6.9504

## Customer-spec. information

Customer : MWM  
Motor : 6.10 TCA  
Power KW : 154.5

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 2.00

## BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 13.95  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 137.5

cm³/1000 strokes : + 1.0

Check tolerance  
cm³/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.50  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.5

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + 0.35

governor spring  
pre-tension  
click setting x : 5.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

control lever  
position degree : 106.0  
tolerance degree : + 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 900  
rack travel mm : 13.00

Rated speed rpm : 945  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 901  
rack travel mm : 13.00

Rated speed rpm : 946  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 902  
rack travel mm : 13.00

Rated speed rpm : 947  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 903  
rack travel mm : 13.00

Rated speed rpm : 948  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 904  
rack travel mm : 13.00

Rated speed rpm : 949  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85

CONTROL LEVER

Tolerance mm : + 0.55  
Rated speed rpm : 1100

Rated speed rpm : 905  
rack travel mm : 13.00

Rated speed rpm : 950  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100

---

#### LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 5.00

#### Testing:

Rated speed rpm : 350  
rack travel mm : 5.50  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 395  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

---

#### TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 13.95  
Tolerance mm : + 0.05

Rated speed rpm : 550  
rack travel mm : 14.00  
Tolerance mm : + 0.10

Rated speed rpm : 400  
rack travel mm : 15.50  
Tolerance mm : + 0.30

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.09.96  
Test oil : ISO 4113

Combination No. : 9 400 085 349

Injection pump  
Pump designation : PESSA95D410RS2812  
EP type number : 9 400 084 028

Governor  
Governor design. : RQV350...1250AB1260  
: -1L  
Governor no. : 9 420 080 330

Cust. part No. : 9.0520.05.6.9504

### Customer-spec. information

Customer : MWM  
Motor : 6.10 T  
Power KW : 129.5

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 2.00

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.75  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 92.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.20  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350  
guide sleeve  
travel mm : 7.20  
Tolerance mm : + 0.10

Rated speed rpm : 800  
guide sleeve  
travel mm : 3.95  
Tolerance mm : + 0.25

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.05  
Tolerance mm : + 0.25

Rated speed rpm : 550  
guide sleeve  
travel mm : 2.75  
Tolerance mm : + 0.25

Rated speed rpm : 1500  
guide sleeve  
travel mm : 8.55  
Tolerance mm : + 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1490

Rack travel in mm : 16.50

Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure hPa : 800

Del. quantity cm<sup>3</sup>/1000 strokes : 92.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 3.0

Spred cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever position degree : 54.0  
tolerance degree : + 4.0

control lever position degree : 110.0  
tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.70  
Rated speed rpm : 1305  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1470  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1630

##### LOW IDLE

control lever position degree : 68.0  
tolerance degree : + 4.0

control lever position degree : 12.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 5.20  
 Tolerance mm : + 0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 7.00  
 Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.75  
 Tolerance mm : + 0.05  
 Rated speed rpm : 750  
 rack travel mm : 12.15  
 Tolerance mm : + 0.05  
 Rated speed rpm : 900  
 rack travel mm : 12.15  
 Tolerance mm : + 0.05  
 Rated speed rpm : 1050  
 rack travel mm : 11.95  
 Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
 Pressure hPa : 800  
 rack travel mm : 12.15  
 Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 Rated speed rpm : 500  
 Pressure hPa : 480  
 rack travel mm : 0.70  
 Tolerance mm : + 0.10  
 Pressure hPa : 380  
 rack travel mm : 0.25  
 Tolerance mm : + 0.05

##### START CUT-OUT

Rated speed rpm : > 100  
 Rated speed rpm : < 270

Check speed 1/min : > 80  
 Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 800  
 Rated speed rpm : 750  
 Del. quantity cm<sup>3</sup>/1000 strokes : 92.5  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : 800  
 Rated speed rpm : 900  
 Del. quantity cm<sup>3</sup>/1000 strokes : 96.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 73.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### BREAKAWAY

Rack travel in mm : 10.70  
 Rated speed rpm : 1305  
 Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

---

LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 23.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 352

Injection pump  
Pump designation : PES6A95D410RS2795  
EP type number : 9 400 084 020

Governor  
Governor design. : RSV350...1050AOC1150  
: -7L  
Governor no. : 9 420 083 287

Cust. part No. :

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Customer-spec. information  
Customer : MBB  
Motor : OM 366  
Power KW : 70.0

---

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

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(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

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## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 3.25  
Tolerance mm : + - 0.05  
Check  
tolerance mm : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

---

Phasing : 0-60-120-180-240  
: -300

---

## BASIC SETTING

Rated speed rpm : 1050

---

Rack travel in mm : 7.85  
Tolerance mm : + - 0.05

Del. quantity  
cm³/1000 strokes : 48.5

cm³/1000 strokes : + - 1.0

Check tolerance  
cm³/1000 S. : + - 3.0

Spread  
cm³/1000 strokes : 3.5

Check tolerance  
cm³/1000 S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 7.00  
Tolerance mm : + - 0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
Spred cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + - 0.35

governor spring pre-tension  
click setting x : 5.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure hPa : -  
Del. quantity cm<sup>3</sup>/1000 strokes : 48.5  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 3.0  
Spred cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever position degree : 105.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 6.80  
Rated speed rpm : 1095

Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1145  
Tolerance 1/min : + - 15  
rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1300

##### LOW IDLE

control lever position degree : 85.0  
tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 6.50

##### Testing:

Rated speed rpm : 350  
rack travel mm : 7.00  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 585  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 7.85  
Tolerance mm : + - 0.05

Rated speed rpm : 600  
rack travel mm : 9.25  
Tolerance mm : + - 0.05

Rated speed rpm : 900  
rack travel mm : 8.20  
Tolerance mm : + - 0.10

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 54.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 53.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 6.80  
Rated speed rpm : 1095  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.00  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 84.0  
cm<sup>3</sup>/1000 strokes : + 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 10.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 10.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 356

Injection pump  
Pump designation : PES6A85D410RS2756  
EP type number : 9 400 093 006

Governor  
Governor design. : RSV325...1150A1C1165  
: L  
Governor no. : 9 420 083 290

Cust. part No. :

## Customer-spec. information

Customer : DEUTZ ARG.  
Motor : BF6L913  
Power KW : 118.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 32.0  
Tolerance bar : + 1.0

Prestroke mm : 1.95  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.35  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 73.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000s. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000s. : 7.0

Rated speed rpm : 325  
 Rack travel in mm : 8.00  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 11.0  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + - 0.35  
 governor spring pre-tension  
 click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 73.0  
 cm<sup>3</sup>/1000 strokes : + - 0.5  
 Check tolerance cm<sup>3</sup>/1000S. : + - 2.5  
 Spread cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever position degree : 114.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 10.30  
 Rated speed rpm : 1195

Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1235  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1380

##### LOW IDLE

control lever position degree : 77.0  
 tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.50

##### Testing:

Rated speed rpm : 325  
 rack travel mm : 8.00  
 Tolerance mm : + - 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 570  
 Tolerance 1/min : + - 30

Rated speed rpm : 100  
 CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1150  
 rack travel mm : 11.35  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 500  
 rack travel mm : 13.05  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 800  
 rack travel mm : 12.35  
 Tolerance mm : + - 0.15

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure : -  
hPa  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

Aneroid pressure : -  
hPa  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

---

#### BREAKAWAY

Rack travel in mm : 10.30  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00

---

#### LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 25.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 357

Injection pump  
Pump designation : PES6A80D410RS2755  
EP type number : 9 400 093 005

Governor  
Governor design. : RSV325...1150A1C1165  
: L  
Governor no. : 9 420 083 290

Cust. part No. :

Customer-spec. information  
Customer : DEUTZ ARG.  
Motor : F6L913  
Power KW : 96.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 1.95  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 9.35  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 54.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000s. : + 2.0

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000s. : 4.0

Rated speed rpm : 325	Tolerance 1/min : + 5
Rack travel in mm : 6.50	rack travel mm : 4.00
Tolerance mm : + 0.10	Rated speed rpm : 1225
Del. quantity	Tolerance 1/min : + 15
cm <sup>3</sup> /1000 strokes : 7.5	rack travel mm : 0.85
cm <sup>3</sup> /1000 strokes : + 1.5	Tolerance mm : +/- 0.55
Check tolerance	Rated speed rpm : 1380
cm <sup>3</sup> /1000S. : + 3.5	
Spred	
cm <sup>3</sup> /1000 strokes : 4.0	
Check tolerance	
cm <sup>3</sup> /1000S. : 6.0	
<hr/>	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
<hr/>	
GUIDE SLEEVE POSITION	
Rated speed rpm : 800	
Rack travel in mm : 0.65	
Tolerance mm : + 0.35	
governor spring pre-tension	
click setting x : 5.50	
<hr/>	
FULL LOAD DELIVERY AT FULL LOAD STOP	
Rated speed rpm : 1150	
Aneroid pressure hPa : -	
Del. quantity	
cm <sup>3</sup> /1000 strokes : 54.5	
cm <sup>3</sup> /1000 strokes : + 0.5	
Check tolerance	
cm <sup>3</sup> /1000S. : + 2.0	
Spred	
cm <sup>3</sup> /1000 strokes : 2.5	
Check tolerance	
cm <sup>3</sup> /1000S. : 4.0	
<hr/>	
CONTROL LEVER	
control lever position degree : 115.0	
tolerance degree : + 4.0	
<hr/>	
RATED SPEED	
rack travel mm : 8.30	
Rated speed rpm : 1195	
<hr/>	
FUEL DELIVERY CHARACTERISTICS	

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 57.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

#### BREAKAWAY

Rack travel in mm : 8.30  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00

---

#### LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.5  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 25.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 358

Injection pump  
Pump designation : PES5A80D410RS2526  
EP type number : 9 400 093 007

Governor  
Governor design. : RSV325...1075A1C1166  
: L  
Governor no. : 9 420 083 291

Cust. part No. :

---

Customer-spec. information  
Customer : DEUTZ ARG.  
Motor : F5L913  
Power KW : 87.0

---

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 1.95  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288

## BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 9.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 53.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 6.50  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 7.5  
 cm<sup>3</sup>/1000 strokes : + - 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + - 0.35  
 governor spring  
 pre-tension  
 click setting x : 5.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 53.0  
 cm<sup>3</sup>/1000 strokes : + - 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 2.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

##### CONTROL LEVER

control lever  
 position degree : 111.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 8.40  
 Rated speed rpm : 1120  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1155  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1320

##### LOW IDLE

control lever  
 position degree : 79.0  
 tolerance degree : + - 4.0  
 Setting point w/out bumper spring  
 Rated speed rpm : 325  
 rack travel mm : 6.00  
 Testing:  
 Rated speed rpm : 325  
 rack travel mm : 6.50  
 Tolerance mm : + - 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 525  
 Tolerance 1/min : + - 30  
 Rated speed rpm : 100  
 CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1075  
 rack travel mm : 9.45  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 500  
 rack travel mm : 11.25  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 800  
 rack travel mm : 10.55  
 Tolerance mm : + - 0.15

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.5  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 58.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

---

#### BREAKAWAY

Rack travel in mm : 8.40  
Rated speed rpm : 1120  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

---

#### LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.5  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.5  
Spred  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 25.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 359

Injection pump  
Pump designation : PES4A80D410RS2523  
EP type number : 9 400 093 008

Governor  
Governor design. : RSV325...1075A1C1166  
: L  
Governor no. : 9 420 083 291

Cust. part No. :

---

Customer-spec. information  
Customer : DEUTZ ARG.  
Motor : F4L913  
Power KW : 56.0

---

### TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 1.95  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

### BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 10.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0

Spread  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 6.50  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 7.5  
 cm<sup>3</sup>/1000 strokes : + 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring  
 pre-tension  
 click setting x : 5.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 60.5  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

##### CONTROL LEVER

Control lever  
 position degree : 112.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 9.20  
 Rated speed rpm : 1120  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1160  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1320

##### LOW IDLE

control lever  
 position degree : 79.0  
 tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 6.00

##### Testing:

Rated speed rpm : 325  
 rack travel mm : 6.50  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 525  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1075  
 rack travel mm : 10.25  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 11.05  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 10.65  
 Tolerance mm : + 0.15

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 61.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

---

#### BREAKAWAY

Rack travel in mm : 9.20  
Rated speed rpm : 1120  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

---

#### LOW IDLE

Rated speed rpm : 325  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.5  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.5  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 365

Injection pump  
Pump designation : PES6A90D410RS2823  
EP type number : 0 410 896 093

Governor  
Governor design. : RQV300...1350AB1278L  
Governor no. : 9 420 080 359

Cust. part No. : 98455951

---

Customer-spec. information  
Customer : FIAT ARGENTINA  
Motor : 8.060.25.600  
Power KW : 130.0

---

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1350

Rack travel in mm : 11.55  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 82.0

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 300  
 Rack travel in mm : 7.60  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 10.0  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.25  
 Tolerance mm : + - 0.25

Rated speed rpm : 1015  
 guide sleeve  
 travel mm : 6.05  
 Tolerance mm : + - 0.25

Rated speed rpm : 460  
 guide sleeve  
 travel mm : 2.45  
 Tolerance mm : + - 0.25

Rated speed rpm : 640  
 guide sleeve  
 travel mm : 3.45  
 Tolerance mm : + - 0.25

Rated speed rpm : 1390  
 guide sleeve  
 travel mm : 8.45  
 Tolerance mm : + - 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1480  
 Rack travel in mm : 12.20  
 Tolerance mm : + - 1.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1350

Aneroid pressure  
 hPa : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 82.0  
 cm<sup>3</sup>/1000 strokes : + - 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 2.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

##### CONTROL LEVER

control lever  
 position degree : 116.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 10.50  
 Rated speed rpm : 1395  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1530  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1650

##### LOW IDLE

control lever  
 position degree : 71.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 7.60  
 Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 8.00

Rated speed rpm : 400

##### TORQUE CONTROL

Rated speed rpm : 1350  
 rack travel mm : 11.55

Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 12.55  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 12.10  
Tolerance mm : + 0.10

Rated speed rpm : 900  
rack travel mm : 11.70  
Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 12.55  
Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.40  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 520  
rack travel mm : 12.10  
Tolerance mm : + 0.10

Pressure hPa : 400  
rack travel mm : 10.75  
Tolerance mm : + 0.05

---

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 800  
Rated speed rpm : 800

+ Del. quantity cm3/1000 strokes : 81.5  
cm3/1000 strokes : + 1.5  
Check tolerance cm3/1000S. : + 3.5

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 50.0  
cm3/1000 strokes : + 0.5  
Check tolerance cm3/1000S. : + 2.5

---

#### BREAKAWAY

Rack travel in mm : 10.50  
Rated speed rpm : 1395  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00  
Del. quantity cm3/1000 strokes : 156.0  
cm3/1000 strokes : + 8.0  
Check tolerance cm3/1000S. : + 11.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm3/1000 strokes : 10.0  
cm3/1000 strokes : + 2.0  
Check tolerance cm3/1000S. : + 4.0  
Spread cm3/1000 strokes : 4.5  
Check tolerance cm3/1000S. : 7.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 367

Injection pump  
Pump designation : PES6A95D410RS2812  
EP type number : 9 400 084 028

Governor  
Governor design. : RQV350...1250AB1280L  
Governor no. : 9 420 080 365

Cust. part No. : 9.0520.05.6.9505

## Customer-spec. information

Customer : MWM  
Motor : 6.10 T  
Power KW : 135.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 2.00

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.05  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 96.5

cm³/1000 strokes : + 1.0

Check tolerance  
cm³/1000S. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.10  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350  
guide sleeve  
travel mm : 7.20  
Tolerance mm : + - 0.10

Rated speed rpm : 800  
guide sleeve  
travel mm : 3.95  
Tolerance mm : + - 0.25

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.05  
Tolerance mm : + - 0.25

Rated speed rpm : 550  
guide sleeve  
travel mm : 2.75  
Tolerance mm : + - 0.25

Rated speed rpm : 1500  
guide sleeve  
travel mm : 8.55  
Tolerance mm : + - 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1490

Rack travel in mm : 16.50

Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 96.5  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 55.0  
tolerance degree : + - 4.0

control lever  
position degree : 110.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 11.00  
Rated speed rpm : 1318  
Tolerance 1/min : + - 8

rack travel mm : 4.00  
Rated speed rpm : 1480  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1650

##### LOW IDLE

control lever  
position degree : 69.0  
tolerance degree : + - 4.0

control lever  
position degree : 14.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 6.10  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 8.50

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 12.05  
Tolerance mm : + - 0.05

Rated speed rpm : 750  
rack travel mm : 12.45  
Tolerance mm : + - 0.05

Rated speed rpm : 1050  
rack travel mm : 12.25  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 12.45  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 520  
rack travel mm : 2.25  
Tolerance mm : + - 0.15

Pressure hPa : 260  
rack travel mm : 0.80  
Tolerance mm : + - 0.10

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check speed 1/min : > 80

Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 97.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Aneroid pressure  
hPa : 900  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1318  
Tolerance 1/min : + - 8

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
cm<sup>3</sup>/1000 strokes : + - 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 11.0

#### LOW IDLE

Rated speed rpm : 350

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 373

Injection pump  
Pump designation : PES6A95D410RS2795  
EP type number : 9 400 084 020

Governor  
Governor design. : RSV350...1250A0C1169  
Governor no. : L  
Governor no. : 9 420 083 296

Cust. part No. :

## Customer-spec. information

Customer : MBB  
Motor : OM 366  
Power KW : 94.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 8.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 7.00  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : + 0.35

governor spring  
pre-tension  
click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.5  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
position degree : 110.0  
tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 7.60  
Rated speed rpm : 1295

Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1347  
Tolerance 1/min : + 15  
rack travel mm : 0.85  
Tolerance mm : - 0.55  
Rated speed rpm : 1500

##### LOW IDLE

control lever  
position degree : 82.0  
tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
rack travel mm : 6.50

##### Testing:

Rated speed rpm : 350  
rack travel mm : 7.00  
Tolerance mm : + 0.10  
rack travel mm : 2.00  
Rated speed rpm : 475  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 8.65  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 8.70  
Tolerance mm : + 0.10

Rated speed rpm : 400  
rack travel mm : 10.10  
Tolerance mm : + 0.30

##### BREAKAWAY

Rack travel in mm : 7.60  
Rated speed rpm : 1295  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.20  
Tolerance mm : + - 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 101.5  
cm<sup>3</sup>/1000 strokes : + - 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 10.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 374

Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018

Governor  
Governor design. : RSV350...1250AOC1170  
: L  
Governor no. : 9 420 083 297

Cust. part No. :

### Customer-spec. information

Customer : MBB  
Motor : OM 366 A  
Power KW : 121.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 9.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 82.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.80

Tolerance mm : + - 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 15.0

cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 5.0

Spred

cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance

cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : + - 0.35

governor spring

pre-tension

click setting x : 3.25

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure

hPa : -

Del. quantity

cm<sup>3</sup>/1000 strokes : 82.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 3.0

Spred

cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance

cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever

position degree : 103.0

tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 8.60

Rated speed rpm : 1295

Tolerance 1/min : + - 5

rack travel mm : 4.00

Rated speed rpm : 1340

Tolerance 1/min : + - 15

rack travel mm : 1.00

Tolerance mm : + - 0.70

Rated speed rpm : 1500

##### LOW IDLE

control lever

position degree : 75.0

tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350

rack travel mm : 6.30

##### Testing:

Rated speed rpm : 350

rack travel mm : 6.80

Tolerance mm : + - 0.10

rack travel mm : 2.00

Rated speed rpm : 450

Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1250

rack travel mm : 9.65

Tolerance mm : + - 0.05

Rated speed rpm : 800

rack travel mm : 9.65

Tolerance mm : + - 0.05

Rated speed rpm : 500

rack travel mm : 9.70

Tolerance mm : + - 0.10

Rated speed rpm : 400

rack travel mm : 11.10

Tolerance mm : + - 0.30

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 74.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 8.60  
Rated speed rpm : 1295  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.00  
Tolerance mm : + - 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 13.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 375

Injection pump  
Pump designation : PES6A95D410RS2812  
EP type number : 9 400 084 028

Governor  
Governor design. : RSV350...1250A8C808L  
Governor no. : 9 420 083 298

Cust. part No. : 9.0520.05.6.9506

### Customer-spec. information

Customer : MWM  
Motor : 6.10 TCA  
Power KW : 158.0

### TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 2.00

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 119.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spreed  
 cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

---

Rack travel in mm : 6.50  
 Tolerance mm : + 0.10

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 20.5

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5

Spreed  
 cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
 Tolerance mm : + 0.35

governor spring  
 pre-tension  
 click setting x : 4.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 119.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0

Spreed  
 cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
 position degree : 107.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 12.30  
 Rated speed rpm : 1305  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1360  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1500

##### LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 6.00

##### Testing:

Rated speed rpm : 350  
 rack travel mm : 6.50  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 435  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 13.35  
 Tolerance mm : + 0.05

Rated speed rpm : 600  
 rack travel mm : 13.35  
 Tolerance mm : + 0.05

Rated speed rpm : 400  
 rack travel mm : 14.80

Tolerance mm : + 0.30

---

#### BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1305  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 156.0  
cm<sup>3</sup>/1000 strokes : + 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 11.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spred  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 10.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 376

Injection pump  
Pump designation : PES4A95D320RS2807  
EP type number : 0 410 894 994

Governor  
Governor design. : RSV375...1150A2C2282  
: R  
Governor no. : 9 420 083 302

Cust. part No. :

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**Customer-spec. information**  
Customer : VALMET  
Motor : 420 DS  
Power KW : 77.2

---

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.40  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 2- 4- 3

Phasing : 0-90-180-270

Beginning of delivery difference

and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 5.00

**BASIC SETTING**

Rated speed rpm : 1150

Rack travel in mm : 12.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 101.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread \_\_\_\_\_

cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0  
 Rated speed rpm : 375  
 Rack travel in mm : 5.60  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 20.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring pre-tension  
 click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 101.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever position degree : 51.0  
 tolerance degree : + 4.0

control lever position degree : 101.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 11.20  
 Rated speed rpm : 1195  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1290  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 75.0  
 tolerance degree : + 4.0

control lever position degree : 25.0  
 tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 375  
 rack travel mm : 5.10

##### Testing:

Rated speed rpm : 375  
 rack travel mm : 5.60  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 495  
 Tolerance 1/min : + 30  
 Rated speed rpm : 100  
 CRT mm min. : > 19.50

##### TORQUE CONTROL

Rated speed rpm : 1150  
 rack travel mm : 12.25  
 Tolerance mm : + 0.05  
 Rated speed rpm : 500  
 rack travel mm : 12.75

Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 12.75  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 12.45  
Tolerance mm : + - 0.05

Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 101.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 11.20  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity cm<sup>3</sup>/1000 strokes : 202.0  
cm<sup>3</sup>/1000 strokes : + - 8.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 11.0

---

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity cm<sup>3</sup>/1000 strokes : 20.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
Spread cm<sup>3</sup>/1000 strokes : 5.5

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.06.96  
Test oil : ISO 4113

Combination No. : 9 400 085 384

Injection pump  
Pump designation : PES4A95D410RS2887  
EP type number : 9 400 084 040

Governor  
Governor design. : RQV300...1300AB1307L  
Governor no. : 9 420 080 385

Cust. part No. : 0260745402

### Customer-spec. information

Customer : MBB  
Motor : OM 364A/ EURO I  
Power KW : 81.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.05  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 8.20  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.0  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : + 0.05  
  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : + 0.25  
  
 Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : + 0.10

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 85.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread

cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever  
 position degree : 59.0  
 tolerance degree : + 4.0  
  
 control lever  
 position degree : 110.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.00  
 Rated speed rpm : 1345  
 Tolerance 1/min : + 5  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1485  
 Tolerance 1/min : + 15  
  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1640

##### LOW IDLE

control lever  
 position degree : 71.0  
 tolerance degree : + 4.0  
  
 control lever  
 position degree : 22.0  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 8.20  
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 9.50

Rated speed rpm : 415

##### TORQUE CONTROL

Rated speed rpm : 1300  
 rack travel mm : 11.05

Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 640  
 rack travel mm : 11.95  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 950  
 rack travel mm : 11.35  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 800  
 rack travel mm : 11.65  
 Tolerance mm :  $\pm$  0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
 Pressure hPa : 700  
 rack travel mm : 11.95  
 Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 Rated speed rpm : 500  
 Pressure hPa : 240  
 rack travel mm : 0.35  
 Tolerance mm :  $\pm$  0.05  
 Pressure hPa : 350  
 rack travel mm : 1.10  
 Tolerance mm :  $\pm$  0.10

---

##### START CUT-OUT

Rated speed rpm : > 100  
 Rated speed rpm : < 250  
 Check speed 1/min : > 80  
 Check speed 1/min : < 260

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 700  
 Rated speed rpm : 800  
 Del. quantity  
 cm3/1000 strokes : 81.5

cm3/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm3/1000S. :  $\pm$  4.0  
 Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm3/1000 strokes : 57.5  
 cm3/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm3/1000S. :  $\pm$  3.0

---

##### BREAKAWAY

Rack travel in mm : 10.00  
 Rated speed rpm : 1345  
 Tolerance 1/min :  $\pm$  5

---

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 14.20  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm3/1000 strokes : 82.5  
 cm3/1000 strokes :  $\pm$  7.5  
 Check tolerance  
 cm3/1000S. :  $\pm$  10.0

---

##### LOW IDLE

Rated speed rpm : 300  
 Del. quantity  
 cm3/1000 strokes : 13.0  
 cm3/1000 strokes :  $\pm$  2.0  
 Check tolerance  
 cm3/1000S. :  $\pm$  4.5  
 Spread  
 cm3/1000 strokes : 5.5  
 Check tolerance  
 cm3/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 386

Injection pump  
Pump designation : PES6A95D410RS2812  
EP type number : 9 400 084 028

Governor  
Governor design. : RQV350...1300AB1304L  
Governor no. : 9 420 080 382

Cust. part No. :

### Customer-spec. information

Customer : MWM  
Motor : 6.10 T  
Power KW : 124.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Beginning of delivery difference  
and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 2.00

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.65  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 91.0

cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.80  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.5

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350

guide sleeve  
travel mm : 7.20

Tolerance mm : + 0.10

Rated speed rpm : 800

guide sleeve  
travel mm : 3.95

Tolerance mm : + 0.25

Rated speed rpm : 300

guide sleeve  
travel mm : 1.05

Tolerance mm : + 0.25

Rated speed rpm : 550

guide sleeve  
travel mm : 2.75

Tolerance mm : + 0.25

Rated speed rpm : 1500

guide sleeve  
travel mm : 8.55

Tolerance mm : + 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1485

Rack travel in mm : 16.50

Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure

hPa : 900

Del. quantity

cm<sup>3</sup>/1000 strokes : 91.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance

cm<sup>3</sup>/1000S. : + 3.0

Spred

cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance

cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever

position degree : 58.0

Tolerance degree : + 4.0

control lever

position degree : 113.0

Tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.60

Rated speed rpm : 1418

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1550

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1700

##### LOW IDLE

control lever

position degree : 69.0

Tolerance degree : + 4.0

control lever

position degree : 13.0

Tolerance degree : + 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 5.80  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.65  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 12.05  
Tolerance mm : + - 0.05

Rated speed rpm : 880  
rack travel mm : 12.05  
Tolerance mm : + - 0.05

Rated speed rpm : 1260  
rack travel mm : 11.65  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 12.05  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 470  
rack travel mm : 1.75  
Tolerance mm : + - 0.15

Pressure hPa : 270  
rack travel mm : 0.60  
Tolerance mm : + - 0.10

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 93.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 51.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance cm<sup>3</sup>/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 1418  
Tolerance 1/min : + - 8

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity cm<sup>3</sup>/1000 strokes : 155.0  
cm<sup>3</sup>/1000 strokes : + - 8.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 11.0

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity cm<sup>3</sup>/1000 strokes : 12.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
Spread

cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.04.96  
Test oil : ISO 4113

Combination No. : 9 400 085 389

Injection pump  
Pump designation : PES6A95D410RS2812  
EP type number : 9 400 084 028

Governor  
Governor design. : RQV350...1300AB1309L  
Governor no. : 9 420 080 386

Cust. part No. :

### Customer-spec. information

Customer : MWM  
Motor : 6.10 TCA  
Power KW : 138.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Beginning of delivery difference  
and maximum rack  
travel : 10.50  
Tolerance mm : + 1.50  
Difference ° CS : 2.00

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.95  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.80

Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0

cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Spred  
cm<sup>3</sup>/1000 strokes : 5.5

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350

guide sleeve  
travel mm : 7.20

Tolerance mm : + 0.10

Rated speed rpm : 800

guide sleeve  
travel mm : 3.95

Tolerance mm : + 0.25

Rated speed rpm : 300

guide sleeve  
travel mm : 1.05

Tolerance mm : + 0.25

Rated speed rpm : 550

guide sleeve  
travel mm : 2.75

Tolerance mm : + 0.25

Rated speed rpm : 1500

guide sleeve  
travel mm : 8.55

Tolerance mm : + 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1490

Rack travel in mm : 16.50

Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure

hPa : 900

Del. quantity

cm<sup>3</sup>/1000 strokes : 99.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### CONTROL LEVER

control lever

position degree : 59.0

tolerance degree : + 4.0

control lever

position degree : 114.0

tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 10.90

Rated speed rpm : 1425

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1560

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1730

##### LOW IDLE

control lever

position degree : 69.0

tolerance degree : + 4.0

control lever

position degree : 13.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 5.80  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.95  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 11.95  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 11.95  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 380  
rack travel mm : 1.80  
Tolerance mm : + - 0.10

Pressure hPa : 190  
rack travel mm : 0.55  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check speed 1/min : > 80  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900  
Rated speed rpm : 800  
Del. quantity cm3/1000 strokes : 94.5  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 51.0  
cm3/1000 strokes : + - 1.0  
Check tolerance cm3/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1425  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity cm3/1000 strokes : 155.0  
cm3/1000 strokes : + - 8.0  
Check tolerance cm3/1000S. : + - 11.0

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity cm3/1000 strokes : 13.0  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.5  
Spread cm3/1000 strokes : 5.5  
Check tolerance cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 01.10.96  
Test oil : ISO 4113

Combination No. : 9 400 087 319

Injection pump  
Pump designation : PE6P110A720RS371-1  
EP type number : 0 411 816 166

Governor  
Governor design. : RQV300...1050PA747  
Governor no. : 9 420 080 195

Cust. part No. :

### Customer-spec. information

Customer : MBB  
Motor : OM 355 A  
Power KW : 210.0

### TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 004

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 2.85  
Tolerance mm : + - 0.05  
Check  
tolerance mm : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

### BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.55  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 162.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 300  
 Rack travel in mm : 6.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 18.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  2.5  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  5.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5

---

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1070  
 guide sleeve travel mm : 8.55  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 800  
 guide sleeve travel mm : 5.65  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 270  
 guide sleeve travel mm : 1.00  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 450  
 guide sleeve travel mm : 2.95  
 Tolerance mm :  $\pm$  0.15

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1070  
 Rack travel in mm : 16.50  
 Tolerance mm :  $\pm$  1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 162.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0

Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5

---

CONTROL LEVER

control lever position degree : 67.0  
 tolerance degree :  $\pm$  4.0  
 control lever position degree : 103.0  
 tolerance degree :  $\pm$  4.0

RATED SPEED

rack travel mm : 10.50  
 Rated speed rpm : 1095  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1165  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1300

---

LOW IDLE

control lever position degree : 52.0  
 tolerance degree :  $\pm$  4.0  
 control lever position degree : 16.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 6.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 8.60  
 Rated speed rpm : 305

---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 11.55  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 11.55  
Tolerance mm : + - 0.05

cm3/1000 strokes : + - 2.5  
Check tolerance cm3/1000S. : + - 5.0  
Spred  
cm3/1000 strokes : 4.5  
Check tolerance cm3/1000S. : 7.5

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 230

Check speed 1/min : > 80  
Check speed 1/min : < 270

---

End of test specification sheet

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 154.0  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 5.0

---

#### BREAKAWAY

Rack travel in mm : 10.50  
Rated speed rpm : 1095  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 132.5  
cm3/1000 strokes : + - 10.0  
Check tolerance  
cm3/1000S. : + - 14.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 18.5

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 06.06.96  
Test oil : ISO 4113

Combination No. : 0 402 066 707

Injection pump  
Pump designation : PES6P120A120RS3358  
EP type number : 0 412 026 784

Governor  
Governor design. : RSV475...1100P2A618  
Governor no. : 0 421 833 513

Cust. part No. : 3927356

## Customer-spec. information

Customer : CDC  
Motor : 6BTA ELITE  
Power KW : 136.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.50

## Start of delivery blocking

\*NW after s.o.d. : 6.75  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.35  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 146.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spreed  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 475  
  
 Rack travel in mm : 5.40  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 24.5  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.5  
 Spreed  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

#### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20  
  
 governor spring  
 pre-tension  
 click setting x : 3.75

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 146.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spreed  
 cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

---

#### CONTROL LEVER

control lever  
 position degree : 103.0  
 tolerance degree : + - 4.0

#### RATED SPEED

rack travel mm : 10.30  
 Rated speed rpm : 1175  
 Tolerance 1/min : + - 5

rack travel mm : 6.50  
 Rated speed rpm : 1230  
 Tolerance 1/min : + - 5

rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1375

---

#### LOW IDLE

control lever  
 position degree : 84.0  
 tolerance degree : + - 4.0

#### Setting point w/out bumper spring

Rated speed rpm : 475  
 rack travel mm : 4.90

#### Testing:

Rated speed rpm : 475  
 rack travel mm : 5.40  
 Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 11.35  
 Tolerance mm : + - 0.05

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 1200

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.45  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 800  
rack travel mm : 10.65  
Tolerance mm : + - 0.20

Pressure hPa : 545  
rack travel mm : 9.50  
Tolerance mm : + - 0.20

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 86.5  
cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 3.0

---

**BREAKAWAY**

Rack travel in mm : 10.30  
Rated speed rpm : 1175  
Tolerance 1/min : + - 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 21.00  
Tolerance mm : + - 0.50  
Del. quantity  
cm3/1000 strokes : 165.0  
cm3/1000 strokes : + - 20.0

---

Check tolerance  
cm3/1000S. : + - 25.0

**LOW IDLE**

Rated speed rpm : 475  
Del. quantity  
cm3/1000 strokes : 24.5  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 4.5  
Spread  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 834

Injection pump  
Pump designation : PES6P120A120RS7265  
EP type number : 0 412 726 882

Governor  
Governor design. : RQV350...1100PA964  
: -12K  
Governor no. : 0 421 815 323

Cust. part No. : 3922471

### Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 186.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 5.50  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.95  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 211.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 375

Rack travel in mm : 6.80  
 Tolerance mm : + 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 23.5  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP  
 Rated speed rpm : 1100  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 211.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever position degree : 117.0  
 tolerance degree : + 6.0

#### RATED SPEED

H13

rack travel mm : 12.40  
 Rated speed rpm : 1280  
 Tolerance 1/min : + 15  
 rack travel mm : 4.00  
 Rated speed rpm : 1405  
 Tolerance 1/min : - 5  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1500

#### LOW IDLE

control lever position degree : 71.0  
 tolerance degree : + 6.0

#### Testing:

Rated speed rpm : 375  
 rack travel mm : 6.80  
 Tolerance mm : + 0.20  
 Rated speed rpm : 275  
 CRT mm min. : > 8.30  
 Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 13.95  
 Tolerance mm : + 0.05  
 Rated speed rpm : 650  
 rack travel mm : 12.20  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1200  
 rack travel mm : 13.50  
 Tolerance mm : + 0.10  
 Rated speed rpm : 750  
 rack travel mm : 12.40  
 Tolerance mm : + 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 8.90  
Tolerance mm : + - 0.20

Rated speed rpm : 1100

Pressure hPa : 650  
rack travel mm : 12.70  
Tolerance mm : + - 0.20

Pressure hPa : 310  
rack travel mm : 10.20  
Tolerance mm : + - 0.20

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 176.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.5  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1280  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.5  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 837

Injection pump  
Pump designation : PES6P120A120RS7265  
EP type number : 0 412 726 882

Governor  
Governor design. : RQV350...1100PA964  
: -15K  
Governor no. : 0 421 815 332

Cust. part No. : 3922449

**Customer-spec. information**

Customer : CDC  
Motor : 6CTA-A  
Power KW : 186.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

**Start of delivery blocking**

\*NW after s.o.d. : 5.50  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 1000

Rack travel in mm : 13.85  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 216.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0  
 Rated speed rpm : 375

Rack travel in mm : 6.50  
 Tolerance mm : + - 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 25.0  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + - 5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 216.5  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0

---

#### CONTROL LEVER

control lever  
 position degree : 120.0  
 tolerance degree : + - 6.0

#### RATED SPEED

H16

rack travel mm : 12.40  
 Rated speed rpm : 1165  
 Tolerance 1/min : + - 15  
 rack travel mm : 4.00  
 Rated speed rpm : 1300  
 Tolerance 1/min : + - 5  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1400

---

#### LOW IDLE

control lever  
 position degree : 69.0  
 tolerance degree : + - 6.0

#### Testing:

Rated speed rpm : 375  
 rack travel mm : 6.50  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 275  
 CRT mm min. : > 8.10  
 Rated speed rpm : 425

---

#### TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 13.85  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 650  
 rack travel mm : 13.30  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1100  
 rack travel mm : 13.50  
 Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1000  
 Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa :  
Rated speed rpm : 1000  
rack travel mm : 9.40  
Tolerance mm : + - 0.20

Rated speed rpm : 1000

Pressure hPa : 765  
rack travel mm : 13.30  
Tolerance mm : + - 0.20

Pressure hPa : 325  
rack travel mm : 10.65  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 30

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 208.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 96.5  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1165  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 838

Injection pump  
Pump designation : PES6P120A120RS7275  
EP type number : 0 412 726 886

Governor  
Governor design. : RQV400...1250PA964  
: -16K  
Governor no. : 0 421 815 334

Cust. part No. : 3921918

### Customer-spec. information

Customer : CDC  
Motor : 6BTA-A  
Power KW : 119.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 6.25  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.5

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 400

Rack travel in mm : 6.20  
Tolerance mm : + - 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0

cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.5

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### CONTROL LEVER

control lever  
position degree : 116.0  
tolerance degree : + - 6.0

#### RATED SPEED

rack travel mm : 12.40  
Rated speed rpm : 1325  
Tolerance 1/min : + - 15

rack travel mm : 4.00  
Rated speed rpm : 1565  
Tolerance 1/min : + - 5

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1675

#### LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : + - 6.0

#### Testing:

Rated speed rpm : 400  
rack travel mm : 6.20  
Tolerance mm : + - 0.20

Rated speed rpm : 300

CRT mm min. : > 7.70

Rated speed rpm : 422

#### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 13.45  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 11.80  
Tolerance mm : + - 0.20

Rated speed rpm : 500  
rack travel mm : 11.40  
Tolerance mm : + - 0.20

Rated speed rpm : 900  
rack travel mm : 12.20  
Tolerance mm : + - 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 10.50  
Tolerance mm : + 0.20

Rated speed rpm : 1250

Pressure hPa : 440  
rack travel mm : 12.90  
Tolerance mm : + 0.20

Pressure hPa : 265  
rack travel mm : 11.15  
Tolerance mm : + 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 280

Check speed 1/min : > 80  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.5  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1325  
Tolerance 1/min : + 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 25.0

#### LOW IDLE

Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 839

Injection pump  
Pump designation : PES6P120A120RS7265  
EP type number : 0 412 726 882

Governor  
Governor design. : RQV350...1100PA964  
: -17K  
Governor no. : 0 421 815 335

Cust. part No. : 3922424

### Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 167.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 5.25  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 199.0  
 \_\_\_\_\_  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spred  
 cm<sup>3</sup>/1000 strokes : 5.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 375

Rack travel in mm : 6.40  
 Tolerance mm : + - 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 22.0  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 199.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

#### CONTROL LEVER

control lever  
 position degree : 115.0  
 tolerance degree : + - 6.0

#### RATED SPEED

H22

rack travel mm : 11.90  
 Rated speed rpm : 1260  
 Tolerance 1/min : + - 15  
 \_\_\_\_\_  
 rack travel mm : 4.00  
 Rated speed rpm : 1385  
 Tolerance 1/min : + - 5  
 \_\_\_\_\_  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1450

---

#### LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : + - 6.0

#### Testing:

Rated speed rpm : 375  
 rack travel mm : 6.40  
 Tolerance mm : + - 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 275  
 \_\_\_\_\_  
 CRT mm min. : > 7.90  
 \_\_\_\_\_  
 Rated speed rpm : 425

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 13.25  
 Tolerance mm : + - 0.05  
 \_\_\_\_\_  
 Rated speed rpm : 650  
 rack travel mm : 12.40  
 Tolerance mm : + - 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 1200  
 rack travel mm : 13.00  
 Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
 Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 8.70  
Tolerance mm : + - 0.20

Rated speed rpm : 1100

Pressure hPa : 520  
rack travel mm : 11.80  
Tolerance mm : + - 0.20

Pressure hPa : 255  
rack travel mm : 9.75  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm3/1000 strokes : 188.0  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0  
Spread  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1100  
Del. quantity  
cm3/1000 strokes : 88.0  
cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 1260  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm3/1000 strokes : 215.0  
cm3/1000 strokes : + - 20.0  
Check tolerance  
cm3/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity  
cm3/1000 strokes : 22.0  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 5.0  
Spread  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 840

Injection pump  
Pump designation : PES6P120A120RS7265  
EP type number : 0 412 726 882

Governor  
Governor design. : RQV350...1100PA964  
: -18K  
Governor no. : 0 421 815 336

Cust. part No. : 3922426

## Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 157.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 5.25  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 187.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 375

Rack travel in mm : 6.60  
Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spred  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 187.5  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 116.0  
tolerance degree : + 6.0

##### RATED SPEED

H25

rack travel mm : 11.70  
Rated speed rpm : 1265  
Tolerance 1/min : + 15

rack travel mm : 4.00  
Rated speed rpm : 1385  
Tolerance 1/min : - 5

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1450

##### LOW IDLE

control lever  
position degree : 68.0  
tolerance degree : + 6.0

##### Testing:

Rated speed rpm : 375  
rack travel mm : 6.60  
Tolerance mm : + 0.20

Rated speed rpm : 275

CRT mm min. : > 7.90

Rated speed rpm : 425

##### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.85  
Tolerance mm : + 0.05

Rated speed rpm : 650  
rack travel mm : 11.70  
Tolerance mm : + 0.20

Rated speed rpm : 1200  
rack travel mm : 12.80  
Tolerance mm : + 0.10

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 8.90  
Tolerance mm : + - 0.20

Rated speed rpm : 1100

Pressure hPa : 520  
rack travel mm : 11.70  
Tolerance mm : + - 0.20

Pressure hPa : 255  
rack travel mm : 9.75  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm3/1000 strokes : 169.5  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0  
Spread  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1100  
Del. quantity  
cm3/1000 strokes : 91.0  
cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 11.70  
Rated speed rpm : 1265  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.00  
Tolerance mm : + - 0.50  
Del. quantity  
cm3/1000 strokes : 180.0  
cm3/1000 strokes : + - 20.0  
Check tolerance  
cm3/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity  
cm3/1000 strokes : 23.0  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 5.0  
Spread  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 841

Injection pump  
Pump designation : PES6P120A120RS7275  
EP type number : 0 412 726 886

Governor  
Governor design. : RQV400...1250PA964  
: -19K  
Governor no. : 0 421 815 342

Cust. part No. : 3921920

### Customer-spec. information

Customer : CDC  
Motor : 6BTA-A  
Power KW : 130.5

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 6.25  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 400

Rack travel in mm : 6.10  
Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 17.0

cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spread  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.5

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

rack travel mm : 12.40  
Rated speed rpm : 1315  
Tolerance 1/min : + 15

rack travel mm : 4.00  
Rated speed rpm : 1565  
Tolerance 1/min : - 5

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1675

#### LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : + 6.0

#### Testing:

Rated speed rpm : 400  
rack travel mm : 6.10  
Tolerance mm : + 0.20

Rated speed rpm : 300

CRT mm min. : > 7.40

Rated speed rpm : 422

#### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 13.45  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 11.80  
Tolerance mm : + 0.10

Rated speed rpm : 500  
rack travel mm : 11.50  
Tolerance mm : + 0.20

Rated speed rpm : 900  
rack travel mm : 12.10  
Tolerance mm : + 0.10

#### CONTROL LEVER

control lever  
position degree : 117.0  
tolerance degree : + 6.0

#### RATED SPEED

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 10.40  
Tolerance mm : + 0.20

Rated speed rpm : 1250

Pressure hPa : 430  
rack travel mm : 13.00  
Tolerance mm : + 0.20

Pressure hPa : 260  
rack travel mm : 11.35  
Tolerance mm : + 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 280

Check speed 1/min : > 80  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 900  
Del. quantity cm3/1000 strokes : 138.0  
cm3/1000 strokes : + 3.0  
Check tolerance cm3/1000S. : + 6.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1250  
Del. quantity cm3/1000 strokes : 112.0  
cm3/1000 strokes : + 2.0  
Check tolerance cm3/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1315  
Tolerance 1/min : + 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.50  
Tolerance mm : + 0.50  
Del. quantity cm3/1000 strokes : 155.0  
cm3/1000 strokes : + 20.0  
Check tolerance cm3/1000S. : + 25.0

#### LOW IDLE

Rated speed rpm : 400  
Del. quantity cm3/1000 strokes : 17.0  
cm3/1000 strokes : + 3.0  
Check tolerance cm3/1000S. : + 5.0  
Spread cm3/1000 strokes : 4.0  
Check tolerance cm3/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 842

Injection pump  
Pump designation : PES6P120A120RS7281  
EP type number : 0 412 726 890

Governor  
Governor design. : RQV400...1250PA1060  
: -1K  
Governor no. : 0 421 815 344

Cust. part No. : 3925085

## Customer-spec. information

Customer : CDC  
Motor : 6BTA-A  
Power KW : 119.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 6.25  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 153.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 420

Rack travel in mm : 6.00  
 Tolerance mm : + 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 15.5  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 153.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever position degree : 120.0  
 tolerance degree : + 6.0

##### RATED SPEED

J03

rack travel mm : 12.30  
 Rated speed rpm : 1325  
 Tolerance 1/min : + 15  
 rack travel mm : 4.00  
 Rated speed rpm : 1480  
 Tolerance 1/min : + 5  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1550

##### LOW IDLE

control lever position degree : 73.0  
 tolerance degree : + 6.0

##### Testing:

Rated speed rpm : 420  
 rack travel mm : 6.00  
 Tolerance mm : + 0.20  
 Rated speed rpm : 300  
 CRT mm min. : > 7.70  
 Rated speed rpm : 425

##### TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 13.35  
 Tolerance mm : + 0.05  
 Rated speed rpm : 800  
 rack travel mm : 12.00  
 Tolerance mm : + 0.20  
 Rated speed rpm : 500  
 rack travel mm : 11.60  
 Tolerance mm : + 0.20  
 Rated speed rpm : 900  
 rack travel mm : 12.40  
 Tolerance mm : + 0.20

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 10.40  
Tolerance mm : + - 0.20

Rated speed rpm : 1250

Pressure hPa : 350  
rack travel mm : 12.70  
Tolerance mm : + - 0.30

Pressure hPa : 265  
rack travel mm : 11.80  
Tolerance mm : + - 0.20

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 280

Check speed 1/min : > 80  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 800  
Del. quantity cm3/1000 strokes : 133.0  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 6.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1250  
Del. quantity cm3/1000 strokes : 106.0  
cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1325  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.50  
Tolerance mm : + - 0.50  
Del. quantity cm3/1000 strokes : 155.0  
cm3/1000 strokes : + - 20.0  
Check tolerance cm3/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 420  
Del. quantity cm3/1000 strokes : 15.5  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 5.0  
Spread cm3/1000 strokes : 4.0  
Check tolerance cm3/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 845

Injection pump  
Pump designation : PES6P120A120RS7286  
EP type number : 0 412 726 894

Governor  
Governor design. : RQV350...1100PA964  
: -20K  
Governor no. : 0 421 815 352

Cust. part No. : 3922425

## Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 224.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 6.25  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.25  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 243.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 375

Rack travel in mm : 6.60  
 Tolerance mm : + 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 24.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP  
 Rated speed rpm : 1100  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 243.5  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever position degree : 119.0  
 tolerance degree : + 6.0

#### RATED SPEED

J06

rack travel mm : 13.60  
 Rated speed rpm : 1255  
 Tolerance 1/min : + 15  
 rack travel mm : 4.00  
 Rated speed rpm : 1400  
 Tolerance 1/min : + 5  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1500

#### LOW IDLE

control lever position degree : 72.0  
 tolerance degree : + 6.0

#### Testing:

Rated speed rpm : 375  
 rack travel mm : 6.60  
 Tolerance mm : + 0.20  
 Rated speed rpm : 275  
 CRT mm min. : > 7.80  
 Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 15.25  
 Tolerance mm : + 0.05  
 Rated speed rpm : 650  
 rack travel mm : 13.40  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1200  
 rack travel mm : 14.70  
 Tolerance mm : + 0.10  
 Rated speed rpm : 750  
 rack travel mm : 13.70  
 Tolerance mm : + 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.20  
Tolerance mm : + - 0.20

Rated speed rpm : 1100

Pressure hPa : 715  
rack travel mm : 13.50  
Tolerance mm : + - 0.20

Pressure hPa : 335  
rack travel mm : 10.60  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 750  
Del. quantity cm3/1000 strokes : 211.5  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 6.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 80.0  
cm3/1000 strokes : + - 1.0  
Check tolerance cm3/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 13.60  
Rated speed rpm : 1255  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.50  
Tolerance mm : + - 0.50  
Del. quantity cm3/1000 strokes : 180.0  
cm3/1000 strokes : + - 20.0  
Check tolerance cm3/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity cm3/1000 strokes : 24.0  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 5.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 851

Injection pump  
Pump designation : PES6P120A120RS7332  
EP type number : 0 412 726 909

Governor  
Governor design. : RQV350...1000PA964  
: -24K  
Governor no. : 0 421 815 411

Cust. part No. : 3927924

**Customer-spec. information**

Customer : CDC  
Motor : 6CTA-A  
Power KW : 205.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.75

**Start of delivery blocking**

°NW after s.o.d. : 5.50  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 1000

Rack travel in mm : 15.15

Tolerance mm : + - 0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 235.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 375  
 Del. quantity cm<sup>3</sup>/1000 strokes : 27.0  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1230

Rack travel in mm : 13.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 235.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 118.0  
 tolerance degree : + - 6.0

##### RATED SPEED

rack travel mm : 13.50  
 Rated speed rpm : 1155  
 Tolerance 1/min : + - 15  
 rack travel mm : 4.00  
 Rated speed rpm : 1300  
 Tolerance 1/min : + - 5  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 70.0  
 tolerance degree : + - 6.0

##### Testing:

Rated speed rpm : 275  
 CRT mm min. : > 8.20  
 Rated speed rpm : 425

##### TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 15.15  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 650  
 rack travel mm : 13.70  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1100  
 rack travel mm : 14.60  
 Tolerance mm : + - 0.10

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1000  
 Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	1000
rack travel mm	:	9.70
Tolerance mm	:	+ 0.20
Rated speed rpm	:	1000
Pressure hPa	:	825
rack travel mm	:	13.80
Tolerance mm	:	+ 0.20
Pressure hPa	:	370
rack travel mm	:	11.15
Tolerance mm	:	+ 0.05

#### START CUT-OUT

Rated speed rpm	:	> 100
Rated speed rpm	:	< 290
Check speed 1/min	:	> 80
Check speed 1/min	:	< 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1200
Rated speed rpm	:	650
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	210.5
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 6.0
Spread		
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	12.0

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	1000
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	99.0
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 3.0

#### BREAKAWAY

Rack travel in mm	:	13.50
Rated speed rpm	:	1155

Tolerance 1/min : + 15

#### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	11.50
Tolerance mm	:	+ 0.50
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	180.0
cm <sup>3</sup> /1000 strokes	:	+ 20.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 25.0

#### LOW IDLE

Rated speed rpm	:	375
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	27.0
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 5.0
Spread		
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 852

Injection pump  
Pump designation : PES6P120A120RS7332  
EP type number : 0 412 726 909

Governor  
Governor design. : RQV350...900PA964  
: -25K  
Governor no. : 0 421 815 418

Cust. part No. : 3927923

### Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 205.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 5.50  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 15.25  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 239.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spred cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 375

Rack travel in mm : 7.00  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 27.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Spred cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP  
 Rated speed rpm : 900  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 239.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spred cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever position degree : 119.0  
 tolerance degree : + 6.0

#### RATED SPEED

J12

rack travel mm : 13.90  
 Rated speed rpm : 1075  
 Tolerance 1/min : + 15  
 rack travel mm : 4.00  
 Rated speed rpm : 1230  
 Tolerance 1/min : + 5  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1400

#### LOW IDLE

control lever position degree : 70.0  
 tolerance degree : + 6.0

#### Testing:

Rated speed rpm : 375  
 rack travel mm : 7.00  
 Tolerance mm : + 0.10  
 Rated speed rpm : 275  
 CRT mm min. : > 8.10  
 Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 900  
 rack travel mm : 15.25  
 Tolerance mm : + 0.05  
 Rated speed rpm : 650  
 rack travel mm : 14.35  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1000  
 rack travel mm : 15.00  
 Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 900  
 Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 900  
rack travel mm : 9.70  
Tolerance mm : + - 0.20

Rated speed rpm : 900

Pressure hPa : 825  
rack travel mm : 13.80  
Tolerance mm : + - 0.20

Pressure hPa : 370  
rack travel mm : 11.15  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 650  
Del. quantity cm3/1000 strokes : 226.5  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 6.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1000  
Del. quantity cm3/1000 strokes : 99.0  
cm3/1000 strokes : + - 1.0  
Check tolerance cm3/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 13.90  
Rated speed rpm : 1075  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.40  
Tolerance mm : + - 0.50  
Del. quantity cm3/1000 strokes : 180.0  
cm3/1000 strokes : + - 20.0  
Check tolerance cm3/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity cm3/1000 strokes : 27.0  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 5.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 873

Injection pump  
Pump designation : PES6P120A120RS7265  
EP type number : 0 412 726 924

Governor  
Governor design. : RQV350...1100PA1178K  
Governor no. : 0 421 815 444

Cust. part No. : 3928152

## Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 167.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 5.25  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 199.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 350

Rack travel in mm : 6.40  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 22.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 2.11  
 Tolerance mm : + 0.20

Rated speed rpm : 1159  
 guide sleeve  
 travel mm : 7.79  
 Tolerance mm : + 0.15

Rated speed rpm : 726  
 guide sleeve  
 travel mm : 4.80  
 Tolerance mm : + 0.20

Rated speed rpm : 420  
 guide sleeve  
 travel mm : 3.10  
 Tolerance mm : + 0.25

Rated speed rpm : 1640  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 199.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 115.0  
 tolerance degree : + 6.0

##### RATED SPEED

rack travel mm : 11.90  
 Rated speed rpm : 1265  
 Tolerance 1/min : + 15

rack travel mm : 4.00  
 Rated speed rpm : 1385  
 Tolerance 1/min : + 5

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1450

##### LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : + 6.0

##### Testing:

Rated speed rpm : 350  
 rack travel mm : 6.40  
 Tolerance mm : + 0.20

Rated speed rpm : 275

CRT mm min. : > 7.90

Rated speed rpm : 425

---

#### TORQUE CONTROL

Rated speed rpm	:	1100
rack travel mm	:	13.25
Tolerance mm	:	+ 0.05
Rated speed rpm	:	650
rack travel mm	:	12.40
Tolerance mm	:	+ 0.20
Rated speed rpm	:	1200
rack travel mm	:	13.00
Tolerance mm	:	+ 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm	:	1100
Pressure hPa	:	1200

##### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	1100
rack travel mm	:	8.70
Tolerance mm	:	+ 0.20
Rated speed rpm	:	1100
Pressure hPa	:	520
rack travel mm	:	11.80
Tolerance mm	:	+ 0.20
Pressure hPa	:	255
rack travel mm	:	9.75
Tolerance mm	:	+ 0.05

---

##### START CUT-OUT

Rated speed rpm	:	> 100
Rated speed rpm	:	< 290
Check speed 1/min	:	> 80
Check speed 1/min	:	< 300

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1200
Rated speed rpm	:	650

Del. quantity		
cm3/1000 strokes	:	188.0
cm3/1000 strokes	:	+ 3.0
Check tolerance		
cm3/1000S.	:	+ 6.0
Spread		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000S.	:	12.0
Aneroid pressure		
hPa	:	-
Rated speed rpm	:	1100
Del. quantity		
cm3/1000 strokes	:	88.0
cm3/1000 strokes	:	+ 1.0
Check tolerance		
cm3/1000S.	:	+ 3.0

##### BREAKAWAY

Rack travel in mm	:	11.90
Rated speed rpm	:	1265
Tolerance 1/min	:	+ 15

##### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	12.50
Tolerance mm	:	+ 0.50
Del. quantity		
cm3/1000 strokes	:	215.0
cm3/1000 strokes	:	+ 20.0
Check tolerance		
cm3/1000S.	:	+ 25.0

##### LOW IDLE

Rated speed rpm	:	350
Del. quantity		
cm3/1000 strokes	:	22.0
cm3/1000 strokes	:	+ 3.0
Check tolerance		
cm3/1000S.	:	+ 5.0
Spread		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000S.	:	12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 875

Injection pump  
Pump designation : PES6P120A120RS7352  
EP type number : 0 412 726 923

Governor  
Governor design. : RQV350...1000PA1185K  
Governor no. : 0 421 815 446

Cust. part No. : 3928169

### Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 205.1

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 5.50  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 15.15  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 235.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 375

Rack travel in mm : 6.80  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 27.0  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 235.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

#### CONTROL LEVER

control lever  
 position degree : 118.0  
 tolerance degree : + - 6.0

#### RATED SPEED

rack travel mm : 13.50  
 Rated speed rpm : 1155  
 Tolerance 1/min : + - 15  
 rack travel mm : 8.00  
 Rated speed rpm : 1245  
 Tolerance 1/min : + - 5  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
 position degree : 71.0  
 tolerance degree : + - 6.0

#### Testing:

Rated speed rpm : 375  
 rack travel mm : 6.80  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 275  
 CRT mm min. : > 8.20  
 Rated speed rpm : 425

---

#### TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 15.15  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 650  
 rack travel mm : 13.70  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1100  
 rack travel mm : 14.60  
 Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1000  
 Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1000  
rack travel mm : 9.90  
Tolerance mm : + - 0.20

Rated speed rpm : 1000

Pressure hPa : 825  
rack travel mm : 14.10  
Tolerance mm : + - 0.20

Pressure hPa : 370  
rack travel mm : 11.45  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 650  
Del. quantity cm<sup>3</sup>/1000 strokes : 210.5  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1000  
Del. quantity cm<sup>3</sup>/1000 strokes : 103.5  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 1155  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.50  
Tolerance mm : + - 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 180.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity cm<sup>3</sup>/1000 strokes : 27.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 876

Injection pump  
Pump designation : PES6P120A120RS7353  
EP type number : 0 412 726 924

Governor  
Governor design. : RQV350...1100PA1186K  
Governor no. : 0 421 815 447

Cust. part No. : 3928670

**Customer-spec. information**

Customer : CDC  
Motor : 6CTA-A  
Power KW : 186.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x Length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

**Start of delivery blocking**

\*NW after s.o.d. : 5.50  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 1100

Rack travel in mm : 13.95  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 211.0  
 \_\_\_\_\_  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 350

Rack travel in mm : 6.80  
 Tolerance mm : + - 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.5  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 211.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

#### CONTROL LEVER

control lever  
 position degree : 115.0  
 tolerance degree : + - 6.0

#### RATED SPEED

rack travel mm : 12.60  
 Rated speed rpm : 1220  
 Tolerance 1/min : + - 15  
 \_\_\_\_\_  
 rack travel mm : 4.00  
 Rated speed rpm : 1360  
 Tolerance 1/min : + - 5  
 \_\_\_\_\_  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1385

---

#### LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : + - 6.0  
 Testing:  
 Rated speed rpm : 350  
 rack travel mm : 6.80  
 Tolerance mm : + - 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 275  
 CRT mm min. : > 7.80  
 \_\_\_\_\_  
 Rated speed rpm : 425

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 13.95  
 Tolerance mm : + - 0.05  
 \_\_\_\_\_  
 Rated speed rpm : 650  
 rack travel mm : 12.20  
 Tolerance mm : + - 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 1150  
 rack travel mm : 13.70  
 Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
 Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 8.90  
Tolerance mm : + - 0.20

Rated speed rpm : 1100

Pressure hPa : 650  
rack travel mm : 12.70  
Tolerance mm : + - 0.20

Pressure hPa : 310  
rack travel mm : 10.15  
Tolerance mm : + - 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 172.5  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.5  
cm<sup>3</sup>/1000 strokes : + - 0.1  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

---

#### BREAKAWAY

Rack travel in mm : 12.60  
Rated speed rpm : 1220  
Tolerance 1/min : + - 15

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 25.0

---

#### LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.5  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 877

Injection pump  
Pump designation : PES6P120A120RS7353  
EP type number : 0 412 726 924

Governor  
Governor design. : RQV350...1100PA1187K  
Governor no. : 0 421 815 448

Cust. part No. : 3928672

### Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 167.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + - 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x Length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + - 1.0

Prestroke mm : 4.00  
Tolerance mm : + - 0.05  
Check  
tolerance mm : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.75

### Start of delivery blocking

\*NW after s.o.d. : 5.25  
Tolerance : + - 0.50  
Check  
tolerance \*NW : + - 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25  
Tolerance mm : + - 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 201.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 350

Rack travel in mm : 6.40  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 22.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 201.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

#### CONTROL LEVER

control lever  
 position degree : 112.0  
 tolerance degree : + 6.0

#### RATED SPEED

rack travel mm : 12.00  
 Rated speed rpm : 1205  
 Tolerance 1/min : + 15  
 rack travel mm : 4.00  
 Rated speed rpm : 1340  
 Tolerance 1/min : + 5  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1450

---

#### LOW IDLE

control lever  
 position degree : 70.0  
 tolerance degree : + 6.0

#### Testing:

Rated speed rpm : 350  
 rack travel mm : 6.40  
 Tolerance mm : + 0.20  
 Rated speed rpm : 275  
 CRT mm min. : > 7.90  
 Rated speed rpm : 425

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#### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 13.25  
 Tolerance mm : + 0.05  
 Rated speed rpm : 650  
 rack travel mm : 12.40  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1150  
 rack travel mm : 13.10  
 Tolerance mm : + 0.10

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#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
 Pressure hPa : 1200  
 rack travel mm : 13.25  
 Tolerance mm : + 0.05

## MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	1100
rack travel mm	:	8.70
Tolerance mm	:	+ - 0.20
Rated speed rpm	:	1100
Pressure hPa	:	520
rack travel mm	:	11.80
Tolerance mm	:	+ - 0.20
Pressure hPa	:	255
rack travel mm	:	9.75
Tolerance mm	:	+ - 0.05

## START CUT-OUT

Rated speed rpm	:	> 100
Rated speed rpm	:	< 290
Check speed 1/min	:	> 80
Check speed 1/min	:	< 300

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1200
Rated speed rpm	:	650
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	190.5
cm <sup>3</sup> /1000 strokes	:	+ - 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ - 6.0
Spread		
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	12.0

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	1100
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	91.0
cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ - 3.0

## BREAKAWAY

Rack travel in mm	:	12.00
Rated speed rpm	:	1205
Tolerance 1/min	:	+ - 15

## STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	11.10
Tolerance mm	:	+ - 0.50
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	180.0
cm <sup>3</sup> /1000 strokes	:	+ - 20.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ - 25.0

## LOW IDLE

Rated speed rpm	:	350
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	22.0
cm <sup>3</sup> /1000 strokes	:	+ - 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ - 5.0
Spread		
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 895

Injection pump  
Pump designation : PES6P120A120RS7353  
EP type number : 0 412 726 924

Governor  
Governor design. : RQV350...1100PA1176  
: -1K  
Governor no. : 0 421 815 496

Cust. part No. : 3930611

## Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 186.5

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 5.50  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.95  
Tolerance mm : + 0.05

Del. quantity	
cm <sup>3</sup> /1000 strokes	: 211.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spred	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
Rated speed rpm	: 375
Rack travel in mm	: 6.70
Tolerance mm	: + 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 23.5
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 5.0
Spred	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve	
travel mm	: 2.28
Tolerance mm	: + 0.25
Rated speed rpm	: 1282
guide sleeve	
travel mm	: 9.01
Tolerance mm	: + 0.25
Rated speed rpm	: 452
guide sleeve	
travel mm	: 3.50
Tolerance mm	: + 0.25
Rated speed rpm	: 402
guide sleeve	
travel mm	: 2.91
Tolerance mm	: + 0.25
Rated speed rpm	: 1640
guide sleeve	
travel mm	: 13.50

Tolerance mm : + 0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 211.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spred	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever	
position degree	: 118.0
tolerance degree	: + 6.0

##### RATED SPEED

rack travel mm	: 12.40
Rated speed rpm	: 1280
Tolerance 1/min	: + 15

rack travel mm	: 8.00
Rated speed rpm	: 1345
Tolerance 1/min	: + 5

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1460

##### LOW IDLE

control lever	
position degree	: 70.0
tolerance degree	: + 6.0

##### Testing:

Rated speed rpm	: 375
rack travel mm	: 6.70
Tolerance mm	: + 0.20

Rated speed rpm	: 275
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CRT mm min.	: > 8.20
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Rated speed rpm	: 425
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**TORQUE CONTROL**

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Rated speed rpm : 1100  
rack travel mm : 13.95  
Tolerance mm : + - 0.05

Rated speed rpm : 650  
rack travel mm : 11.95  
Tolerance mm : + - 0.20

Rated speed rpm : 1200  
rack travel mm : 13.60  
Tolerance mm : + - 0.10

Rated speed rpm : 750  
rack travel mm : 12.30  
Tolerance mm : + - 0.20

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**ANEROID/ALTITUDE COMPENSATOR TEST**

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**SETTING**

Rated speed rpm : 1100  
Pressure hPa : 1200

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.30  
Tolerance mm : + - 0.20

Rated speed rpm : 1100

Pressure hPa : 650  
rack travel mm : 13.00  
Tolerance mm : + - 0.20

Pressure hPa : 310  
rack travel mm : 10.70  
Tolerance mm : + - 0.20

---

**START CUT-OUT**

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure hPa : 1200  
Rated speed rpm : 750  
Del. quantity cm3/1000 strokes : 173.0  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 6.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1100  
Del. quantity cm3/1000 strokes : 92.5  
cm3/1000 strokes : + - 1.0  
Check tolerance cm3/1000S. : + - 4.0

---

**BREAKAWAY**

Rack travel in mm : 12.40  
Rated speed rpm : 1280  
Tolerance 1/min : + - 15

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 11.80  
Tolerance mm : + - 0.50  
Del. quantity cm3/1000 strokes : 185.0  
cm3/1000 strokes : + - 20.0  
Check tolerance cm3/1000S. : + - 25.0

---

**LOW IDLE**

Rated speed rpm : 375  
Del. quantity cm3/1000 strokes : 23.5  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 5.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

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End of test specification sheet

**BOSCH INJ. PUMP TEST SPECIFICATIONS****Note remarks**

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 898

Injection pump  
Pump designation : PES6P120A120RS7351  
EP type number : 0 412 726 922

Governor  
Governor design. : RQV350...1100PA1173  
: -2K  
Governor no. : 0 421 815 501

Cust. part No. : 3931252

**Customer-spec. information**

Customer : CDC  
Motor : 6CTA-A  
Power KW : 244.0

**TEST BENCH REQUIREMENTS**

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

**REMARKS**

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

**BEGINNING OF DELIVERY**

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

**Start of delivery blocking**

\*NW after s.o.d. : 7.00  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

**BASIC SETTING**

Rated speed rpm : 1100

Rack travel in mm : 15.75

Tolerance mm	: + - 0.05
Del. quantity cm <sup>3</sup> /1000 strokes	: 250.5
cm <sup>3</sup> /1000 strokes	: + - 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + - 4.0
Spread cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
Rated speed rpm	: 375
Rack travel in mm	: 6.90
Tolerance mm	: + - 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 24.5
cm <sup>3</sup> /1000 strokes	: + - 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + - 5.0
Spread cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve travel mm	: 2.11
Tolerance mm	: + - 0.20
Rated speed rpm	: 1159
guide sleeve travel mm	: 7.79
Tolerance mm	: + - 0.15
Rated speed rpm	: 726
guide sleeve travel mm	: 4.80
Tolerance mm	: + - 0.25
Rated speed rpm	: 420
guide sleeve travel mm	: 3.10
Tolerance mm	: + - 0.25
Rated speed rpm	: 1640

guide sleeve travel mm	: 13.50
Tolerance mm	: + - 0.50
FULL LOAD DELIVERY AT FULL LOAD STOP	
Rated speed rpm	: 1100
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 250.5
cm <sup>3</sup> /1000 strokes	: + - 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + - 4.0
Spread cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 119.0
tolerance degree	: + - 6.0

##### RATED SPEED

rack travel mm	: 14.20
Rated speed rpm	: 1250
Tolerance 1/min	: + - 15

rack travel mm	: 7.50
Rated speed rpm	: 1355
Tolerance 1/min	: + - 5

rack travel mm	: 0.50
Tolerance mm	: + - 0.50
Rated speed rpm	: 1500

##### LOW IDLE

control lever position degree	: 71.0
tolerance degree	: + - 6.0

##### Testing:

Rated speed rpm	: 375
rack travel mm	: 6.90
Tolerance mm	: + - 0.20

Rated speed rpm	: 250
CRT mm min.	: > 7.50

Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 15.75  
Tolerance mm : + - 0.05

Rated speed rpm : 650  
rack travel mm : 14.50  
Tolerance mm : + - 0.20

Rated speed rpm : 1200  
rack travel mm : 15.30  
Tolerance mm : + - 0.10

Rated speed rpm : 750  
rack travel mm : 14.70  
Tolerance mm : + - 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.50  
Tolerance mm : + - 0.20

Rated speed rpm : 1100

Pressure hPa : 765  
rack travel mm : 14.10  
Tolerance mm : + - 0.20

Pressure hPa : 330  
rack travel mm : 11.10  
Tolerance mm : + - 0.20

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 750  
Del. quantity cm3/1000 strokes : 236.5  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 6.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1100  
Del. quantity cm3/1000 strokes : 95.5  
cm3/1000 strokes : + - 1.0  
Check tolerance cm3/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 14.20  
Rated speed rpm : 1250  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.90  
Tolerance mm : + - 0.50  
Del. quantity cm3/1000 strokes : 191.5  
cm3/1000 strokes : + - 20.0  
Check tolerance cm3/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 375  
Del. quantity cm3/1000 strokes : 24.5  
cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 5.0  
Spread cm3/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 905

Injection pump  
Pump designation : PES6P120A120RS7416  
EP type number : 0 412 726 959

Governor  
Governor design. : RQV400...1250PA1060  
: -3K  
Governor no. : 0 421 815 513

Cust. part No. : 3928145

## Customer-spec. information

Customer : CDC  
Motor : 68TA-A  
Power KW : 119.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 6.25  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35  
Tolerance mm : + 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 153.5
cm <sup>3</sup> /1000 strokes	: + - 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + - 4.0
Spred cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0
Rated speed rpm	: 420
Rack travel in mm	: 6.00
Tolerance mm	: + - 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 15.5
cm <sup>3</sup> /1000 strokes	: + - 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + - 5.0
Spred cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 400
guide sleeve travel mm	: 1.44
Tolerance mm	: + - 0.20

Rated speed rpm	: 1329
guide sleeve travel mm	: 7.83
Tolerance mm	: + - 0.15

Rated speed rpm	: 939
guide sleeve travel mm	: 5.18
Tolerance mm	: + - 0.25

Rated speed rpm	: 640
guide sleeve travel mm	: 3.56
Tolerance mm	: + - 0.25

Rated speed rpm	: 1690
guide sleeve travel mm	: 11.50

Tolerance mm : + - 0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 153.5
cm <sup>3</sup> /1000 strokes	: + - 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + - 4.0
Spred cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

##### CONTROL LEVER

control lever position degree	: 117.0
tolerance degree	: + - 4.0

##### RATED SPEED

rack travel mm	: 12.30
Rated speed rpm	: 1325
Tolerance 1/min	: + - 15

rack travel mm	: 4.00
Rated speed rpm	: 1475
Tolerance 1/min	: + - 15

rack travel mm	: 0.50
Tolerance mm	: + - 0.50
Rated speed rpm	: 1550

##### LOW IDLE

control lever position degree	: 71.0
tolerance degree	: + - 4.0

##### Testing:

Rated speed rpm	: 420
rack travel mm	: 6.00
Tolerance mm	: + - 0.20

Rated speed rpm	: 400
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CRT mm min.	: > 5.80
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Rated speed rpm	: 425
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#### TORQUE CONTROL

Rated speed rpm	:	1250
rack travel mm	:	13.35
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	800
rack travel mm	:	12.00
Tolerance mm	:	+ - 0.20
Rated speed rpm	:	500
rack travel mm	:	11.60
Tolerance mm	:	+ - 0.20
Rated speed rpm	:	900
rack travel mm	:	12.40
Tolerance mm	:	+ - 0.20

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm	:	1250
Pressure hPa	:	1200

##### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	1250
rack travel mm	:	10.40
Tolerance mm	:	+ - 0.20
Rated speed rpm	:	1250
Pressure hPa	:	350
rack travel mm	:	12.70
Tolerance mm	:	+ - 0.30
Pressure hPa	:	265
rack travel mm	:	11.80
Tolerance mm	:	+ - 0.20

---

##### START CUT-OUT

Rated speed rpm	:	> 100
Rated speed rpm	:	< 280
Check speed 1/min	:	> 80
Check speed 1/min	:	< 290

---

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	:	
hPa	:	1200
Rated speed rpm	:	800
Del. quantity	:	
cm <sup>3</sup> /1000 strokes	:	133.0
cm <sup>3</sup> /1000 strokes	:	+ - 3.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	+ - 6.0
Spread	:	
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	12.0
Aneroid pressure	:	
hPa	:	-
Rated speed rpm	:	1250
Del. quantity	:	
cm <sup>3</sup> /1000 strokes	:	106.0
cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	+ - 3.0

---

##### BREAKAWAY

Rack travel in mm	:	12.30
Rated speed rpm	:	1325
Tolerance 1/min	:	+ - 15

---

##### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	13.50
Tolerance mm	:	+ - 0.50
Del. quantity	:	
cm <sup>3</sup> /1000 strokes	:	155.0
cm <sup>3</sup> /1000 strokes	:	+ - 20.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	+ - 25.0

---

##### LOW IDLE

Rated speed rpm	:	420
Del. quantity	:	
cm <sup>3</sup> /1000 strokes	:	15.5
cm <sup>3</sup> /1000 strokes	:	+ - 3.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	+ - 5.0
Spread	:	
cm <sup>3</sup> /1000 strokes	:	4.0
Check tolerance	:	
cm <sup>3</sup> /1000S.	:	8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 906

Injection pump  
Pump designation : PES6P120A120RS7416  
EP type number : 0 412 726 959

Governor  
Governor design. : RQV400...1250PA1060  
: -4K  
Governor no. : 0 421 815 514

Cust. part No. : 3928146

## Customer-spec. information

Customer : CDC  
Motor : 6BTA-A  
Power KW : 130.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 6.25  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.65

Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 160.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spred cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 420  
 Rack travel in mm : 6.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 15.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  5.0  
 Spred cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 400  
 guide sleeve travel mm : 1.44  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1329  
 guide sleeve travel mm : 7.83  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 939  
 guide sleeve travel mm : 5.18  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 640  
 guide sleeve travel mm : 3.56  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1690

guide sleeve travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1390  
 Rack travel in mm : 12.60

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 160.5  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spred cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever position degree : 117.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 12.60  
 Rated speed rpm : 1325  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 4.00  
 Rated speed rpm : 1475  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1550

##### LOW IDLE

control lever position degree : 71.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 420  
rack travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 300

CRT mm min. : > 5.80

Rated speed rpm : 425

#### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 13.65  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 11.85  
Tolerance mm : + 0.10

Rated speed rpm : 500  
rack travel mm : 11.60  
Tolerance mm : + 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 10.60  
Tolerance mm : + 0.20

Rated speed rpm : 1250

Pressure hPa : 375  
rack travel mm : 12.70  
Tolerance mm : + 0.30

Pressure hPa : 260  
rack travel mm : 11.60  
Tolerance mm : + 0.20

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 280

Check speed 1/min : > 80

Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 800  
Del. quantity cm3/1000 strokes : 131.5  
cm3/1000 strokes : + 3.0  
Check tolerance cm3/1000S. : + 6.0  
Spread cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 1250  
Del. quantity cm3/1000 strokes : 111.5  
cm3/1000 strokes : + 1.0  
Check tolerance cm3/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 12.60  
Rated speed rpm : 1325  
Tolerance 1/min : + 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.10  
Tolerance mm : + 0.50  
Del. quantity cm3/1000 strokes : 155.0  
cm3/1000 strokes : + 20.0  
Check tolerance cm3/1000S. : + 25.0

#### LOW IDLE

Rated speed rpm : 420  
Del. quantity cm3/1000 strokes : 15.0  
cm3/1000 strokes : + 3.0  
Check tolerance cm3/1000S. : + 5.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.05.96  
Test oil : ISO 4113

Combination No. : 0 402 736 910

Injection pump  
Pump designation : PES6P120A720RS7351  
EP type number : 0 412 726 922

Governor  
Governor design. : RQV450...1100PA1291K  
Governor no. : 0 421 815 526

Cust. part No. : 3931948

### Customer-spec. information

Customer : CDC  
Motor : 6CTA-A  
Power KW : 224.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Prestroke mm : 4.40  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery blocking

\*NW after s.o.d. : 7.00  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.75  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 215.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 450

Rack travel in mm : 6.80  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 27.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 450  
 guide sleeve  
 travel mm : 1.23  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1183  
 guide sleeve  
 travel mm : 7.71  
 Tolerance mm : + 0.15  
 Rated speed rpm : 870  
 guide sleeve  
 travel mm : 4.59  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1570  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 215.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 116.0  
 tolerance degree : + 6.0

##### RATED SPEED

rack travel mm : 13.70  
 Rated speed rpm : 1165  
 Tolerance 1/min : + 15

rack travel mm : 7.80  
 Rated speed rpm : 1250  
 Tolerance 1/min : + 5

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1375

##### LOW IDLE

control lever  
 position degree : 76.0  
 tolerance degree : + 6.0

##### Testing:

Rated speed rpm : 450  
 rack travel mm : 6.80  
 Tolerance mm : + 0.20

Rated speed rpm : 325

CRT mm min. : > 8.50

Rated speed rpm : 525

##### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 14.75

Tolerance mm : + - 0.05  
Rated speed rpm : 800  
rack travel mm : 13.80  
Tolerance mm : + - 0.10  
Rated speed rpm : 500  
rack travel mm : 12.70  
Tolerance mm : + - 0.20

Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spred cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

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#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 207.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
Spred cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 13.70  
Rated speed rpm : 1165  
Tolerance 1/min : + - 15

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.80  
Tolerance mm : + - 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 180.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 25.0

---

#### LOW IDLE

Rated speed rpm : 450  
Del. quantity cm<sup>3</sup>/1000 strokes : 27.0  
cm<sup>3</sup>/1000 strokes : + - 3.0

---

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.06.96  
Test oil : ISO 4113

Combination No. : 0 400 075 923

Injection pump  
Pump designation : PES5M55C320RS168  
EP type number : 0 410 055 978

Governor  
Governor design. : RSF385/2000M55-8  
Governor no. : 0 420 021 269

Cust. part No. :

### Customer-spec. information

Customer : DPICO  
Motor : OM602-2.9L (Dom)  
Power KW : 69.0

### TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holder  
assembly : 1 688 901 111

Opening pressure  
bar : 148.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.05  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 21.00  
Tolerance mm : + 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

Start of delivery blocking

\*NW after s.o.d. : 15.50  
Tolerance : + 0.20  
Check tolerance \*NW : + 0.30

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 38.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance cm<sup>3</sup>/1000S. : + 1.5

Spread cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 385  
Rack travel in mm : 5.60  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes : + 0.5  
Spread  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : + 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.5  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 1.5  
Spread  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

RATED SPEED

control lever  
position degree : 50.0  
Rated speed rpm : 2250  
rack travel mm : 7.70  
Tolerance mm : + 0.25  
Rated speed rpm : 2550  
rack travel mm : 0.50  
Tolerance mm : + 0.50

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000  
CRT mm max. : 1.45

LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : + 2.0

Setting point w/out bumper spring  
Rated speed rpm : 385  
rack travel mm : 5.60

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500  
rack travel mm : 3.80  
Tolerance mm : + 0.10

Load pick-up

Rated speed rpm : 250  
rack travel mm : 12.20

Rated speed rpm : 1000

CRT mm max. : 1.45  
rack travel mm : 5.60  
Rated speed rpm : 385

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.15  
Tolerance mm : + 0.05

Rated speed rpm : 1800  
rack travel mm : 12.00  
Tolerance mm : + 0.10

Rated speed rpm : 2000  
rack travel mm : 11.80  
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 1800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 40.8  
cm<sup>3</sup>/1000 strokes : + 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : + 1.8

Spred  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 2000  
Spred  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 41.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0  
Spred  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 2250  
rack travel mm : 7.70  
Tolerance mm : + 0.25  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.5  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spred  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : + 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
cm<sup>3</sup>/1000 strokes : + 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spred  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

#### LOW IDLE

Rated speed rpm : 385

Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.3  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.3  
Spred  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

control lever  
position degree : > 47.00

control lever  
position degree : < 44.50

#### SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever  
position degree : 14.0  
tolerance degree : + 2.0  
Rated speed rpm : 400  
Rack travel in mm : 8.50  
Tolerance mm : + 0.80  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
cm<sup>3</sup>/1000 strokes : + 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Vacuum hPa : 400.0

#### TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 385  
Vacuum hPa : -450.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.06.96  
Test oil : ISO 4113

Combination No. : 0 402 046 866

Injection pump  
Pump designation : PES6P120A720RS3346  
EP type number : 0 412 026 778

Governor  
Governor design. : RQ300/1025PA1213  
Governor no. : 0 421 801 783

Cust. part No. :

## Customer-spec. information

Customer : IVECO-FIAT  
Motor : 8360.46.4649

## TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 034

Inlet press. bar : 2.5

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.55  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance \*NW : + 0.50

## BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 11.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 175.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50

Tolerance mm : + - 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 20.0

cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 6.0

Spred

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance

cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

Rated speed rpm : 550

Rack travel in mm : 14.30

Tolerance mm : + - 0.80

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1025

Aneroid pressure

hPa : 900

Del. quantity

cm<sup>3</sup>/1000 strokes : 175.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 4.0

Spred

cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance

cm<sup>3</sup>/1000S. : 9.0

#### RATED SPEED

rack travel mm : 10.90

Rated speed rpm : 1078

Tolerance 1/min : + - 8

rack travel mm : 4.00

Rated speed rpm : 1150

Tolerance 1/min : + - 15

rack travel mm : 0.50

Tolerance mm : + - 0.50

Rated speed rpm : 1300

#### LOW IDLE

control lever position degree : 70.0

tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 300

rack travel mm : 5.50

Tolerance mm : + - 0.10

rack travel mm : 2.00

Rated speed rpm : 380

Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 7.00

#### TORQUE CONTROL

Rated speed rpm : 1025

rack travel mm : 11.90

Tolerance mm : + - 0.05

Rated speed rpm : 500

rack travel mm : 11.95

Tolerance mm : + - 0.10

Rated speed rpm : 1025

rack travel mm : 12.35

Tolerance mm : + - 0.05

Rated speed rpm : 500

rack travel mm : 12.40

Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500

Pressure hPa : 900

rack travel mm : 11.90

Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500

rack travel mm : 9.60  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 270  
rack travel mm : 10.00  
Tolerance mm : + - 0.20

Pressure hPa : 500  
rack travel mm : 11.30  
Tolerance mm : + - 0.05

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 168.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 102.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1078  
Tolerance 1/min : + - 8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.0  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

#### LOW IDLE

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 24.06.94  
Test oil : ISO 4113

Combination No. : 0 402 646 865

Injection pump  
Pump designation : PE6P120A720RS7020  
EP type number : 0 412 626 828

Governor  
Governor design. : RQV200...1000PA539  
: -8  
Governor no. : 0 421 813 635

Cust. part No. : 1121370

---

Customer-spec. information  
Customer : SCANIA  
Motor : DS11 34

---

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.50

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.95  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 209.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 225  
  
 Rack travel in mm : 4.70  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 20.0  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1050

Rack travel in mm : 16.50  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 209.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 59.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 117.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 11.90  
 Rated speed rpm : 1045  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1150  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1250

##### LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 9.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 225  
 rack travel mm : 4.70  
 Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 6.10

Rated speed rpm : 275

##### TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 12.95  
 Tolerance mm : + - 0.05

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 12.95  
Tolerance mm : + - 0.05

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.70  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 11.20  
Tolerance mm : + - 0.15

Pressure hPa : 520  
rack travel mm : 12.35  
Tolerance mm : + - 0.05

---

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.0  
cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

## BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 1045  
Tolerance 1/min : + - 5

---

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 300.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

---

## LOW IDLE

Rated speed rpm : 225  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Speed  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.06.94  
Test oil : ISO 4113

Combination No. : 0 402 646 878

Injection pump  
Pump designation : PE6P120A720RS7020  
EP type number : 0 412 626 828

Governor  
Governor design. : RQV200...1000PA539  
: -11  
Governor no. : 0 421 813 813

Cust. part No. : 1121371

---

Customer-spec. information  
Customer : SCANIA  
Motor : DS11 34

---

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 1.5  
x length mm : 600

---

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.50

Start of delivery mark

Tolerance : + 0.10  
Check tolerance °NW : + 0.50

Barrel no. : 1

---

### BASIC SETTING

Rated speed rpm : 700

---

Rack travel in mm : 12.95  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 209.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0  
 Rack travel in mm : 4.70  
 Tolerance mm : + 0.10

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1050  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 209.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 59.0  
 tolerance degree : + 4.0  
 control lever  
 position degree : 117.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 11.90  
 Rated speed rpm : 1045  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1150  
 Tolerance 1/min : + 15  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1250

##### LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0  
 control lever  
 position degree : 9.0  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 225  
 rack travel mm : 4.70  
 Tolerance mm : + 0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 6.10  
 Rated speed rpm : 275

##### TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 12.95  
 Tolerance mm : + 0.05

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
 Pressure hPa : 900  
 rack travel mm : 12.95  
 Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.70  
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 11.20  
Tolerance mm : + 0.15

Pressure hPa : 520  
rack travel mm : 12.35  
Tolerance mm : + 0.05

---

End of test specification sheet

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#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.0  
cm<sup>3</sup>/1000 strokes : + 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 1045  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 300.0  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.06.96  
Test oil : ISO 4113

Combination No. : 0 403 244 045

Injection pump  
Pump designation : PES4MW100/720RS1524  
EP type number : 0 413 204 021

Governor  
Governor design. : RQV300...1300MW132  
: -12  
Governor no. : 0 420 083 329

Cust. part No. : 0240740902

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM364LA  
Power KW : 77.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 4.55  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.00  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 300  
 Rack travel in mm : 4.40  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 12.0  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 0.91  
 Tolerance mm : + - 0.25

Rated speed rpm : 1353  
 guide sleeve travel mm : 7.14  
 Tolerance mm : + - 0.25

Rated speed rpm : 1130  
 guide sleeve travel mm : 5.40  
 Tolerance mm : + - 0.25

Rated speed rpm : 610  
 guide sleeve travel mm : 2.96  
 Tolerance mm : + - 0.25

Rated speed rpm : 660  
 guide sleeve travel mm : 3.31  
 Tolerance mm : + - 0.25

Rated speed rpm : 780  
 guide sleeve travel mm : 3.72  
 Tolerance mm : + - 0.25

Rated speed rpm : 1679  
 guide sleeve travel mm : 12.00  
 Tolerance mm : + - 0.25

Rated speed rpm : 1780  
 guide sleeve travel mm : 13.50

Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1350  
 Rack travel in mm : 10.00  
 Tolerance mm : + - 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure hPa : 700  
 Del. quantity cm<sup>3</sup>/1000 strokes : 89.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 3.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance cm<sup>3</sup>/1000S. : 7.0

CONTROL LEVER

control lever position degree : 111.0  
 tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 10.00  
 Rated speed rpm : 1345  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1445  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1550

LOW IDLE

control lever position degree : 73.0  
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300

rack travel mm : 4.40  
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 5.00

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.00  
Tolerance mm : + 0.05

Rated speed rpm : 750  
rack travel mm : 11.00  
Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 11.00  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 230  
rack travel mm : 0.90  
Tolerance mm : + 0.10

Pressure hPa : 150  
rack travel mm : 0.30  
Tolerance mm : + 0.10

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 200

Check speed 1/min : > 80  
Check speed 1/min : < 220

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 700  
Rated speed rpm : 750  
Del. quantity cm3/1000 strokes : 81.0  
cm3/1000 strokes : + 1.5  
Check tolerance cm3/1000S. : + 4.0  
Spread cm3/1000 strokes : 6.0  
Check tolerance cm3/1000S. : 9.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 56.0  
cm3/1000 strokes : + 1.0  
Check tolerance cm3/1000S. : + 3.0

#### BREAKAWAY

Rack travel in mm : 10.00  
Rated speed rpm : 1345  
Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm3/1000 strokes : 120.0  
cm3/1000 strokes : + 5.0  
Check tolerance cm3/1000S. : + 8.0

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm3/1000 strokes : 12.0  
cm3/1000 strokes : + 2.0  
Check tolerance cm3/1000S. : + 4.5  
Spread cm3/1000 strokes : 2.0  
Check tolerance cm3/1000S. : 4.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 10.06.96  
Test oil : ISO 4113

Combination No. : 0 403 244 048

Injection pump  
Pump designation : PES4MW100/720RS1524  
EP type number : 0 413 204 021

Governor  
Governor design. : RQV300...1300MW132  
: -12  
Governor no. : 0 420 083 329

Cust. part No. : 0240741002

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM364LA  
Power KW : 77.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 4.55  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.00  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm	:	300	Tolerance mm	:	$\pm$ 0.50
Rack travel in mm	:	4.40	GUIDE SLEEVE POSITION		
Tolerance mm	:	$\pm$ 0.10	Rated speed rpm	:	1350
Del. quantity			Rack travel in mm	:	10.00
cm <sup>3</sup> /1000 strokes	:	12.0	Tolerance mm	:	$\pm$ 2.70
cm <sup>3</sup> /1000 strokes	:	$\pm$ 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP		
Check tolerance			Rated speed rpm	:	1300
cm <sup>3</sup> /1000S.	:	$\pm$ 4.5	Aneroid pressure		
Spread			hPa	:	700
cm <sup>3</sup> /1000 strokes	:	2.0	Del. quantity		
Check tolerance			cm <sup>3</sup> /1000 strokes	:	89.0
cm <sup>3</sup> /1000S.	:	4.0	cm <sup>3</sup> /1000 strokes	:	$\pm$ 1.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR			Check tolerance		
GUIDE SLEEVE TRAVEL			cm <sup>3</sup> /1000S.	:	$\pm$ 3.0
Rated speed rpm	:	300	Spread		
guide sleeve			cm <sup>3</sup> /1000 strokes	:	4.5
travel mm	:	0.91	Check tolerance		
Tolerance mm	:	$\pm$ 0.20	cm <sup>3</sup> /1000S.	:	7.0
Rated speed rpm	:	1353	CONTROL LEVER		
guide sleeve			control lever		
travel mm	:	7.14	position degree	:	111.0
Tolerance mm	:	$\pm$ 0.15	tolerance degree	:	$\pm$ 4.0
Rated speed rpm	:	1130	RATED SPEED		
guide sleeve			rack travel mm	:	10.00
travel mm	:	5.40	Rated speed rpm	:	1345
Tolerance mm	:	$\pm$ 0.25	Tolerance 1/min	:	$\pm$ 5
Rated speed rpm	:	610	rack travel mm	:	4.00
guide sleeve			Rated speed rpm	:	1445
travel mm	:	2.96	Tolerance 1/min	:	$\pm$ 15
Tolerance mm	:	$\pm$ 0.25	rack travel mm	:	0.50
Rated speed rpm	:	660	Tolerance mm	:	$\pm$ 0.50
guide sleeve			Rated speed rpm	:	1550
travel mm	:	3.31	LOW IDLE		
Tolerance mm	:	$\pm$ 0.25	control lever		
Rated speed rpm	:	780	position degree	:	74.0
guide sleeve			tolerance degree	:	$\pm$ 4.0
travel mm	:	3.72	Testing:		
Tolerance mm	:	$\pm$ 0.25	Rated speed rpm	:	300
Rated speed rpm	:	1679			
guide sleeve					
travel mm	:	12.00			
Tolerance mm	:	$\pm$ 0.25			
Rated speed rpm	:	1780			
guide sleeve					
travel mm	:	13.50			

rack travel mm : 4.40  
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 5.00

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 11.00  
Tolerance mm : + - 0.05

Rated speed rpm : 750  
rack travel mm : 11.00  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 11.00  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 230  
rack travel mm : 0.90  
Tolerance mm : + - 0.10

Pressure hPa : 150  
rack travel mm : 0.30  
Tolerance mm : + - 0.10

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 200

Check speed 1/min : > 80  
Check speed 1/min : < 220

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 700  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 81.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
Spread cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 56.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 10.00  
Rated speed rpm : 1345  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 120.0  
cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 8.0

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm<sup>3</sup>/1000 strokes : 12.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
Spread cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance cm<sup>3</sup>/1000S. : 4.0

End of test specification sheet

LC9

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.05.96  
Test oil : ISO 4113

Combination No. : 0 402 646 668

Injection pump  
Pump designation : PE6P120A320RS7412  
EP type number : 0 412 626 953

Governor  
Governor design. : RQV275...1000PA1278  
: -1K  
Governor no. : 0 421 815 510

Cust. part No. : 1310220/1

### Customer-spec. information

Customer : DAF  
Motor : XF 280 M  
Power KW : 280.0

### TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 145  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 650

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 11.75

Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 280.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 275  
 Rack travel in mm : 4.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 17.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
 guide sleeve travel mm : 2.04  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1062  
 guide sleeve travel mm : 10.04  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 697  
 guide sleeve travel mm : 6.48  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 400  
 guide sleeve travel mm : 3.92  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1310

guide sleeve travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1171  
 Rack travel in mm : 10.70  
 Tolerance mm :  $\pm$  2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 280.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 118.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 10.70  
 Rated speed rpm : 1050  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1140  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1275

##### LOW IDLE

control lever position degree : 71.0  
 tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 4.00  
Tolerance mm : + - 0.10

Rated speed rpm : 175

CRT mm min. : > 6.50

Rated speed rpm : 300

#### TORQUE CONTROL

Rated speed rpm : 980  
rack travel mm : 11.75  
Tolerance mm : + - 0.05

Rated speed rpm : 900  
rack travel mm : 11.85  
Tolerance mm : + - 0.10

Rated speed rpm : 750  
rack travel mm : 12.00  
Tolerance mm : + - 0.10

Rated speed rpm : 700  
rack travel mm : 11.70  
Tolerance mm : + - 0.10

Rated speed rpm : 600  
rack travel mm : 11.10  
Tolerance mm : + - 0.10

Rated speed rpm : 500  
rack travel mm : 10.65  
Tolerance mm : + - 0.10

Rated speed rpm : 1000  
rack travel mm : 11.75  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 775  
Pressure hPa : 1500  
rack travel mm : 11.85  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 775  
rack travel mm : 7.55  
Tolerance mm : + - 0.20

Rated speed rpm : 775

Pressure hPa : 640  
rack travel mm : 11.00  
Tolerance mm : + - 0.05

Pressure hPa : 320  
rack travel mm : 8.60  
Tolerance mm : + - 0.10

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 311.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 600  
Del. quantity cm<sup>3</sup>/1000 strokes : 181.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### BREAKAWAY

Rack travel in mm : 10.70  
Rated speed rpm : 1050  
Tolerance 1/min : + - 5

#### LOW IDLE

Rated speed rpm : 275  
Del. quantity cm<sup>3</sup>/1000 strokes : 17.0

cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 31.05.96  
Test oil : ISO 4113

Combination No. : 0 402 648 891

Injection pump  
Pump designation : PE8P120A720LS7189  
: -10Q  
EP type number : 0 412 628 894

Governor  
Governor design. : RQV200...950PA736-8  
Governor no. : 0 421 813 815

Cust. part No. : 1316120

### Customer-spec. information

Customer : SCANIA  
Motor : DSC14 08

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Vibration  
damper  
(RoBo diaphragm) : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5

L14

Tolerance bar : + 1.5  
Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
  
Prestroke mm : 5.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
  
Firing order : 1- 2- 7- 3- 4  
: - 5- 6- 8

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35  
 Tolerance mm : + - 0.05  
 \_\_\_\_\_  
 Del. quantity cm<sup>3</sup>/1000 strokes : 220.0  
 \_\_\_\_\_  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 \_\_\_\_\_  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 \_\_\_\_\_  
 Rated speed rpm : 250  
 \_\_\_\_\_  
 Rack travel in mm : 4.50  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 16.0  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve travel mm : 1.60  
 Tolerance mm : + - 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 995  
 guide sleeve travel mm : 7.80  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 350  
 guide sleeve travel mm : 2.60  
 Tolerance mm : + - 0.30  
 \_\_\_\_\_  
 Rated speed rpm : 650  
 guide sleeve travel mm : 4.70  
 Tolerance mm : + - 0.30

Rated speed rpm : 1115  
 guide sleeve travel mm : 9.40  
 Tolerance mm : + - 0.20

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1150  
 \_\_\_\_\_  
 Rack travel in mm : 9.50  
 Tolerance mm : + - 2.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 220.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### CONTROL LEVER

control lever position degree : 60.0  
 tolerance degree : + - 4.0

control lever position degree : 94.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 11.30  
 Rated speed rpm : 995  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1105  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1250

##### LOW IDLE

control lever  
position degree : 45.0  
tolerance degree : + - 4.0

control lever  
position degree : 11.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 250  
rack travel mm : 4.50  
Tolerance mm : + - 0.10

Rated speed rpm : 150

CRT mm min. : > 5.80

Rated speed rpm : 275

#### TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 12.35  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.35  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.00  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 10.50  
Tolerance mm : + - 0.20

Pressure hPa : 525  
rack travel mm : 11.75  
Tolerance mm : + - 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 206.0  
cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 144.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 11.30  
Rated speed rpm : 995  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.00  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

#### LOW IDLE

Rated speed rpm : 250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 03.06.96  
Test oil : ISO 4113

Combination No. : 0 402 676 833

Injection pump  
Pump designation : PE6P120A320RS7426  
EP type number : 0 412 626 958

Governor  
Governor design. : RSV300...1100P1A650  
Governor no. : 0 421 833 567

Cust. part No. : 3826502 P02 v.05/96

### Customer-spec. information

Customer : VM  
Motor : TWD 1031 E  
Power KW : 235.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.00  
Tolerance mm : ± 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 292.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0  
 Rated speed rpm : 300  
 Rack travel in mm : 5.00  
 Tolerance mm :  $\pm$  0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 22.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm :  $\pm$  0.20  
 governor spring  
 pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 292.0  
 cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0

##### CONTROL LEVER

control lever  
 position degree : 63.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 113.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 11.00  
 Rated speed rpm : 1080  
 Tolerance 1/min :  $\pm$  5

rack travel mm : 4.00  
 Rated speed rpm : 1150  
 Tolerance 1/min :  $\pm$  15

rack travel mm : 0.85  
 Tolerance mm :  $\pm$  0.55  
 Rated speed rpm : 1260

##### LOW IDLE

control lever  
 position degree : 81.0  
 tolerance degree :  $\pm$  4.0

control lever  
 position degree : 31.0  
 tolerance degree :  $\pm$  4.0

##### Setting point w/out bumper spring

Rated speed rpm : 300  
 rack travel mm : 4.50

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 5.00  
 Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
 Rated speed rpm : 390  
 Tolerance 1/min :  $\pm$  30

##### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 12.00  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 12.00  
Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.00  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.70  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 1030  
rack travel mm : 4.00  
Tolerance mm : + - 0.20

Pressure hPa : 270  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm3/1000 strokes : 321.0  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0  
Spread  
cm3/1000 strokes : 9.0  
Check tolerance  
cm3/1000S. : 13.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 185.0

cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1080  
Tolerance 1/min : + - 5

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm3/1000 strokes : 22.0  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0  
Spread  
cm3/1000 strokes : 5.0  
Check tolerance  
cm3/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.05.96  
Test oil : ISO 4113

Combination No. : 0 402 896 014

Injection pump  
Pump designation : PE6P120A720RS8029  
EP type number : 0 412 826 028

Governor  
Governor design. : RE30  
Governor no. : 0 421 890 021

Cust. part No. : 1361126

### Customer-spec. information

Customer : SCANIA  
Motor : DSC1124

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 680 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

### Start of delivery mark

Barrel no. : 1

Vibration  
damper  
(RoBo diaphragm) : 3.1

(B) POSITIONER TESTING  
Warm-up time: 3 minutes at  
n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.  
CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(ALL P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min-1: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check tolerance V : +/- 1.20

Engine speed min-1: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700  
Uact V : 3.500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 340.0  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 900  
Uact V : 3.500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 309.0  
cm<sup>3</sup>/1000 strokes : +/- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 6.0

TEST POINT L1

Rated speed rpm : 250  
Uact V : 1.640  
Tolerance Volt : +/- 0.060  
Check tolerance  
Volt : +/- 0.060  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
cm<sup>3</sup>/1000 strokes : +/- 3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Uact V : 3.000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 245.0  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.05.96  
Test oil : ISO 4113

Combination No. : 0 402 946 023

Injection pump  
Pump designation : PES6P120A320RS8038  
EP type number : 0 412 926 025

Governor  
Governor design. : RQ250/1000PA1265-2  
Governor no. : 0 421 801 808

Cust. part No. : 1385102

---

Customer-spec. information  
Customer : SCANIA  
Motor : DSC 9.15

---

### TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.30  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.20

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery blocking

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

---

### BASIC SETTING

Rated speed rpm : 700

---



rack travel mm : 0.50  
Tolerance mm :  $\pm$  0.50  
Rated speed rpm : 1350

#### LOW IDLE

control lever position degree : 85.0  
tolerance degree :  $\pm$  4.0

control lever position degree : 23.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 250  
rack travel mm : 6.80  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 350  
Tolerance 1/min :  $\pm$  20

Rated speed rpm : 150

CRT mm min. :  $>$  10.20

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1000  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.00

Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 290  
rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 800  
rack travel mm : 11.90  
Tolerance mm :  $\pm$  0.05

#### START CUT-OUT

Rated speed rpm :  $<$  170  
Rated speed rpm :  $>$  100

Check speed 1/min :  $<$  190  
Check speed 1/min :  $>$  80

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 1000  
Del. quantity cm<sup>3</sup>/1000 strokes : 280.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  9.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 172.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0

#### BREAKAWAY

Rack travel in mm : 11.40  
Rated speed rpm : 1045  
Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50

Del. quantity  
cm<sup>3</sup>/1000 strokes : 270.0  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

---

LOW IDLE

Rated speed rpm : 250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Speed  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 04.06.96  
Test oil : ISO 4113

Combination No. : 0 403 486 110

Injection pump  
Pump designation : PES6MW100/321RS1192  
: -1  
EP type number : 0 413 406 242

Governor  
Governor design. : RSV300...1300MW0A802  
: -1  
Governor no. : 0 420 085 132

Cust. part No. : 3-7493

## Customer-spec. information

Customer : MAN  
Motor : D0826LE40  
Power KW : 199.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 3.55  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Start of delivery blocking

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.05  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 139.0

cm³/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : +— 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 300  
 Rack travel in mm : 4.80  
 Tolerance mm : +— 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 15.0  
 cm<sup>3</sup>/1000 strokes : +— 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : +— 4.5  
 Spread cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : +— 0.35  
 governor spring pre-tension click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 139.0  
 cm<sup>3</sup>/1000 strokes : +— 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : +— 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5

##### CONTROL LEVER

M01

control lever position degree : 115.0  
 tolerance degree : +— 4.0

##### RATED SPEED

rack travel mm : 12.00  
 Rated speed rpm : 1355  
 Tolerance 1/min : +— 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1475  
 Tolerance 1/min : +— 15  
 rack travel mm : 1.00  
 Tolerance mm : +— 0.70  
 Rated speed rpm : 1650

##### LOW IDLE

control lever position degree : 82.0  
 tolerance degree : +— 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 4.80  
 Tolerance mm : +— 0.10  
 rack travel mm : > 2.00  
 Rated speed rpm : 430  
 Tolerance 1/min : +— 30  
 Rated speed rpm : 100  
 CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1300  
 rack travel mm : 13.05  
 Tolerance mm : +— 0.05  
 Rated speed rpm : 800  
 rack travel mm : 13.05  
 Tolerance mm : +— 0.10  
 Rated speed rpm : 500  
 rack travel mm : 13.05  
 Tolerance mm : +— 0.10

---

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 156.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

---

#### BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1355  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 8.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 25.04.96  
Test oil : ISO 4113

Combination No. : 0 402 648 602

Injection pump  
Pump designation : PE8P110A320RS7398  
EP type number : 0 412 618 800

Governor  
Governor design. : RQV300...900PA1252K  
Governor no. : 0 421 815 484

Cust. part No. :

## Customer-spec. information

Customer : TATRA  
Motor : T3B-928.60  
Power KW : 255.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 1.00

Firing order : 1- 8- 5- 4- 7  
: - 2- 3- 6

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.00  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 191.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance cm <sup>3</sup> /1000S.	:	9.0
Rated speed rpm	:	250
Tolerance mm	:	+/- 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	:	26.0
cm <sup>3</sup> /1000 strokes	:	+/- 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+/- 6.0
Spread cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	1.63
Tolerance mm	:	+/- 0.20
Rated speed rpm	:	958
guide sleeve travel mm	:	8.79
Tolerance mm	:	+/- 0.15
Rated speed rpm	:	777
guide sleeve travel mm	:	6.70
Tolerance mm	:	+/- 0.25
Rated speed rpm	:	520
guide sleeve travel mm	:	3.73
Tolerance mm	:	+/- 0.25
Rated speed rpm	:	1260
guide sleeve travel mm	:	13.50
Tolerance mm	:	+/- 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	:	1115
Rack travel in mm	:	13.00
Tolerance mm	:	+/- 1.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	900
Aneroid pressure hPa	:	1500
Del. quantity cm <sup>3</sup> /1000 strokes	:	191.0
cm <sup>3</sup> /1000 strokes	:	+/- 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+/- 4.0
Spread cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance cm <sup>3</sup> /1000S.	:	9.0

##### CONTROL LEVER

control lever position degree	:	65.0
tolerance degree	:	+/- 4.0

control lever position degree	:	119.0
tolerance degree	:	+/- 4.0

##### RATED SPEED

rack travel mm	:	13.00
Rated speed rpm	:	945
Tolerance 1/min	:	+/- 5

rack travel mm	:	4.00
Rated speed rpm	:	1065
Tolerance 1/min	:	+/- 15

rack travel mm	:	0.50
Tolerance mm	:	+/- 0.50
Rated speed rpm	:	1150

##### LOW IDLE

control lever position degree	:	70.0
tolerance degree	:	+/- 4.0

control lever position degree	:	16.0
tolerance degree	:	+/- 4.0

##### Testing:

Rated speed rpm	:	250
Tolerance mm	:	+/- 0.10

Rated speed rpm : 150

CRT mm min. : > 6.00

Rated speed rpm : 350

#### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 14.00  
Tolerance mm : + - 0.05

Rated speed rpm : 600  
rack travel mm : 13.10  
Tolerance mm : + - 0.10

Rated speed rpm : 300  
rack travel mm : 12.60  
Tolerance mm : + - 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 900  
Pressure hPa : 1500  
rack travel mm : 14.00  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 900  
rack travel mm : 9.05  
Tolerance mm : + - 0.20

Rated speed rpm : 900

Pressure hPa : 375  
rack travel mm : 10.15  
Tolerance mm : + - 0.15

Pressure hPa : 750  
rack travel mm : 12.75  
Tolerance mm : + - 0.05

##### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 170

Check speed 1/min : > 80

Check speed 1/min : < 190

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 600  
Del. quantity cm<sup>3</sup>/1000 strokes : 198.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 129.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 13.00  
Rated speed rpm : 945  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 255.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 24.0

#### LOW IDLE

Rated speed rpm : 250  
Del. quantity cm<sup>3</sup>/1000 strokes : 26.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.05.96  
Test oil : ISO 4113

Combination No. : 0 402 946 303

Injection pump  
Pump designation : PES6P120A320RS8515  
EP type number : 0 412 926 211

Governor  
Governor design. : RQV250...900PA1223K  
Governor no. : 0 421 815 971

Cust. part No. :

---

Customer-spec. information  
Customer : PERKINS  
Motor : EAGLE410TX  
Power KW : 298.0

---

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 3.0  
Tolerance bar : + - 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + - 10.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 5.10  
Tolerance mm : + - 0.05  
Check tolerance mm : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.00

Firing order : 1- 4- 2- 6- 3-  
: 5

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + - 0.50  
Check tolerance °NW : + - 0.75

### Start of delivery blocking

Tolerance : + - 0.30  
Check tolerance °NW : + - 0.50

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 14.80

Tolerance mm : +— 0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 289.5  
 cm<sup>3</sup>/1000 strokes : +— 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : +— 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 2.70  
 Tolerance mm : +— 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 25.0  
 cm<sup>3</sup>/1000 strokes : +— 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : +— 6.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 2.23  
 Tolerance mm : +— 0.20  
 Rated speed rpm : 958  
 guide sleeve travel mm : 8.79  
 Tolerance mm : +— 0.15  
 Rated speed rpm : 676  
 guide sleeve travel mm : 5.80  
 Tolerance mm : +— 0.25  
 Rated speed rpm : 430  
 guide sleeve travel mm : 3.62  
 Tolerance mm : +— 0.25  
 Rated speed rpm : 1260

guide sleeve travel mm : 13.50  
 Tolerance mm : +— 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1105  
 Rack travel in mm : 17.00  
 Tolerance mm : +— 2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850  
 Aneroid pressure hPa : 1300  
 Del. quantity cm<sup>3</sup>/1000 strokes : 289.5  
 cm<sup>3</sup>/1000 strokes : +— 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : +— 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 117.0  
 tolerance degree : +— 4.0

##### RATED SPEED

rack travel mm : 13.80  
 Rated speed rpm : 945  
 Tolerance 1/min : +— 15  
 rack travel mm : 4.00  
 Rated speed rpm : 1070  
 Tolerance 1/min : +— 5  
 rack travel mm : 0.50  
 Tolerance mm : +— 0.50  
 Rated speed rpm : 1150

##### LOW IDLE

control lever position degree : 68.0  
 tolerance degree : +— 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 2.70  
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 4.20

Rated speed rpm : 330

#### TORQUE CONTROL

Rated speed rpm : 850  
rack travel mm : 14.80  
Tolerance mm : + - 0.05

Rated speed rpm : 600  
rack travel mm : 14.10  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 850  
Pressure hPa : 1300  
rack travel mm : 14.80  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 850  
rack travel mm : 8.20  
Tolerance mm : + - 0.20

Rated speed rpm : 850

Pressure hPa : 425  
rack travel mm : 10.00  
Tolerance mm : + - 0.05

Pressure hPa : 820  
rack travel mm : 12.60  
Tolerance mm : + - 0.20

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 230

Check speed 1/min : > 80

Check speed 1/min : < 240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1300  
Rated speed rpm : 600  
Del. quantity cm<sup>3</sup>/1000 strokes : 314.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 161.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 13.80  
Rated speed rpm : 945  
Tolerance 1/min : + - 15

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 225.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity cm<sup>3</sup>/1000 strokes : 25.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
Spread cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.05.96  
Test oil : ISO 4113

Combination No. : 0 401 876 801

Injection pump  
Pump designation : PE6P120A320RS3375  
EP type number : 0 411 826 817

Governor  
Governor design. : RSV250...900POA646  
Governor no. : 0 421 833 562

Cust. part No. : 3826154 P01 v.11/95

### Customer-spec. information

Customer : PENTA  
Motor : TWD 710P  
Power KW : 153.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 240  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 8.15  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 250

Rack travel in mm : 4.80  
Tolerance mm : + - 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0

cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + - 0.20

governor spring  
pre-tension  
click setting x : 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure

hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spred  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 37.0  
tolerance degree : + - 4.0

control lever  
position degree : 87.0  
tolerance degree : + - 4.0

#### RATED SPEED

rack travel mm : 7.15  
Rated speed rpm : 920  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 955  
Tolerance 1/min : + - 15

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1050

#### LOW IDLE

control lever  
position degree : 69.0  
tolerance degree : + - 4.0

control lever  
position degree : 19.0  
tolerance degree : + - 4.0

#### Setting point w/out bumper spring

Rated speed rpm : 250  
rack travel mm : 4.30

#### Testing:

Rated speed rpm : 250  
rack travel mm : 4.80  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 335  
Tolerance 1/min : + - 30

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 8.15  
Tolerance mm : + - 0.05

---

#### BREAKAWAY

Rack travel in mm : 7.15  
Rated speed rpm : 920  
Tolerance 1/min : + - 5

---

#### LOW IDLE

Rated speed rpm : 250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 20.05.96  
Test oil : ISO 4113

Combination No. : 0 401 878 140

Injection pump  
Pump designation : PE8P120A520/5RS427  
EP type number : 0 411 828 048

Governor  
Governor design. : RSUV300...900POA320  
: -1  
Governor no. : 0 421 829 107

Cust. part No. :

## Customer-spec. information

Customer : MWM  
Motor : TBD 234 V8  
Power KW : 400.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 8- 5- 4- 7  
: - 2- 3- 6

Phasing : 0-30-90-120-180  
: -210-270-300

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 13.75  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0

cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spreed cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 5.60  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 23.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 6.0  
 Spreed cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring pre-tension click setting x : 3.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 250.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spreed cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 119.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 12.70  
 Rated speed rpm : 945  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 980  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1130

##### LOW IDLE

control lever position degree : 76.0  
 tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 300  
 rack travel mm : 5.10

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 5.60  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 350  
 Tolerance 1/min : + 30

##### TORQUE CONTROL

Dimension a mm : 3.90  
 Rated speed rpm : 750  
 rack travel mm : 13.75  
 Tolerance mm : + 0.05

Rated speed rpm : 900  
 rack travel mm : 13.75  
 Tolerance mm : + 0.10

Rated speed rpm : 450  
 rack travel mm : 13.75

Tolerance mm : + - 0.10

Rated speed rpm : 280  
rack travel mm : 15.20  
Tolerance mm : + - 0.30

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#### BREAKAWAY

Rack travel in mm : 12.70  
Rated speed rpm : 945  
Tolerance 1/min : + - 5

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#### STARTING FUEL DELIVERY

Rated speed rpm : 100

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#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 21.05.96  
Test oil : ISO 4113

Combination No. : 0 402 076 804

Injection pump  
Pump designation : PES6P120A720RS3340  
EP type number : 0 412 026 773

Governor  
Governor design. : RSV650...1100P8A566  
: -2  
Governor no. : 0 421 833 559

Cust. part No. :

## Customer-spec. information

Customer : NH  
Power KW : 162.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30

Check tolerance °NW : + 0.50

## Start of delivery blocking

Check tolerance °NW : + 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 10.70  
Tolerance mm : + 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	:	140.5
cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 6.0
Spread cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance cm <sup>3</sup> /1000S.	:	9.0
Rated speed rpm	:	650
Rack travel in mm	:	5.10
Tolerance mm	:	+ - 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	:	33.0
cm <sup>3</sup> /1000 strokes	:	+ - 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 6.0
Spread cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + - 0.20

governor spring  
pre-tension  
click setting x : 3.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1025
Aneroid pressure hPa	:	1600
Del. quantity cm <sup>3</sup> /1000 strokes	:	140.5
cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 6.0
Spread cm <sup>3</sup> /1000 strokes	:	5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 93.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 4.00  
Rated speed rpm : 1105

##### ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1072  
rack travel mm : 9.70

Rated speed rpm : 1100  
Tolerance 1/min : + - 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1350

Rated speed rpm : 1073  
rack travel mm : 9.70

Rated speed rpm : 1101  
Tolerance 1/min : + - 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55

Rated speed rpm : 1074  
rack travel mm : 9.70

Rated speed rpm : 1102  
Tolerance 1/min : + - 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55

Rated speed rpm : 1075  
rack travel mm : 9.70

Rated speed rpm : 1103  
Tolerance 1/min : + - 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55

Rated speed rpm : 1076

rack travel mm	:	9.70
Rated speed rpm	:	1104
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1077
rack travel mm	:	9.70
Rated speed rpm	:	1105
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55

#### LOW IDLE

control lever position degree	:	76.0
tolerance degree	:	+ 4.0

#### Setting point w/out bumper spring

Rated speed rpm	:	650
rack travel mm	:	4.60

#### Testing:

Rated speed rpm	:	650
rack travel mm	:	5.10
Tolerance mm	:	+ 0.10

#### TORQUE CONTROL

Rated speed rpm	:	1025
rack travel mm	:	10.70
Tolerance mm	:	+ 0.05

Rated speed rpm	:	800
rack travel mm	:	11.45
Tolerance mm	:	+ 0.10

Rated speed rpm	:	700
rack travel mm	:	11.50
Tolerance mm	:	+ 0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm	:	500
Pressure hPa	:	1600
rack travel mm	:	11.45
Tolerance mm	:	+ 0.15

#### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500
rack travel mm	:	7.60
Tolerance mm	:	+ 0.15

Rated speed rpm	:	500
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Pressure hPa	:	840
rack travel mm	:	10.70
Tolerance mm	:	+ 0.10

#### START CUT-OUT

Rated speed rpm	:	> 100
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Check speed 1/min	:	> 80
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#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	1600
Rated speed rpm	:	800
Del. quantity cm <sup>3</sup> /1000 strokes	:	165.5
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 6.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm <sup>3</sup> /1000 strokes	:	80.0
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 4.0

#### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.50
Tolerance mm	:	+ 0.50
Del. quantity cm <sup>3</sup> /1000 strokes	:	95.0
cm <sup>3</sup> /1000 strokes	:	+ 15.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ 19.0

---

**LOW IDLE**

Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 33.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 14.05.96  
Test oil : ISO 4113

Combination No. : 0 400 876 367

Injection pump  
Pump designation : PES6A90D410RS2710-1  
EP type number : 0 410 896 084

Governor  
Governor design. : RSV350...750AOC2240  
: -2L  
Governor no. : 0 420 232 558

Cust. part No. :

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM 366  
Power KW : 60.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.30  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.20  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 64.5

cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5

Spread  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 8.20  
Tolerance mm : + - 0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
Spred cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure hPa : -  
Del. quantity cm<sup>3</sup>/1000 strokes : 64.5  
cm<sup>3</sup>/1000 strokes : + - 0.5  
Check tolerance cm<sup>3</sup>/1000S. : + - 2.5  
Spred cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance cm<sup>3</sup>/1000S. : 7.0

CONTROL LEVER

control lever position degree : 86.0  
tolerance degree : + - 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
rack travel mm : 11.20

Rated speed rpm : 784  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 900

Rated speed rpm : 751

rack travel mm : 11.20

Rated speed rpm : 785  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 900

Rated speed rpm : 752  
rack travel mm : 11.20

Rated speed rpm : 786  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 900

Rated speed rpm : 753  
rack travel mm : 11.20

Rated speed rpm : 787  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 900

Rated speed rpm : 754  
rack travel mm : 11.20

Rated speed rpm : 788  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 900

Rated speed rpm : 755  
rack travel mm : 11.20

Rated speed rpm : 789  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 900

LOW IDLE

control lever position degree : 74.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 8.20  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : + 20

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.20  
Tolerance mm : + 0.05

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.70  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
cm<sup>3</sup>/1000 strokes : + 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 10.0

---

LOW IDLE

Rated speed rpm : 350  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.08.82  
Test oil : ISO 4113

Combination No. : 0 401 818 797

Injection pump  
Pump designation : PE8P130A500/5LS3053  
EP type number : 0 411 838 702

Governor  
Governor design. :  
Governor no. :

Cust. part No. :

## Customer-spec. information

Customer : SUEDBREMSE  
Motor : TBD-602-V16

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 413 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 443 022

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 061

Outside diameter : 8.0

x inside diameter : 2.0

x Length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 6- 8- 2- 4- 7  
: - 3- 5

Phasing : 0-45-90-90-135-180  
: -225-315  
Tolerance : + 0.3°  
Check tolerance °NW : + 0.50

## BASIC SETTING

Del. quantity cm3/1000 strokes : 349.0

cm3/1000 strokes : + 2.0

Check tolerance cm3/1000s. : + 5.0

Spread cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 9.0

Rated speed rpm : 300

Del. quantity cm3/1000 strokes : 52.0

cm3/1000 strokes : + 4.0

Spreed  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 349.0  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
cm<sup>3</sup>/1000 strokes : + 4.0  
Spreed  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.85  
Test oil : ISO 4113

Combination No. : 0 401 846 501

Injection pump  
Pump designation : PE6P110A720RS380  
EP type number : 0 411 816 126

Governor  
Governor design. : RQV250...1000PA434  
: -2  
Governor no. : 0 421 813 444

Cust. part No. :

---

Customer-spec. information  
Customer : HISPAVINSA  
Motor : BSR 36 C

---

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 191.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.5

Spread  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000s. : 7.5

Rated speed rpm : 250

Rack travel in mm : 8.60

Tolerance mm : + 0.10

Del. quantity

cm<sup>3</sup>/1000 strokes : 27.0

cm<sup>3</sup>/1000 strokes : + 3.0

Spred

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance

cm<sup>3</sup>/1000S. : 7.0

Spred  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250

guide sleeve

travel mm : 1.15

Tolerance mm : + 0.05

Rated speed rpm : 1040

guide sleeve

travel mm : 7.90

Tolerance mm : + 0.10

Rated speed rpm : 350

guide sleeve

travel mm : 2.75

Tolerance mm : + 0.35

Rated speed rpm : 430

guide sleeve

travel mm : 3.90

Tolerance mm : + 0.10

---

##### CONTROL LEVER

control lever  
position degree : 65.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 14.50  
Rated speed rpm : 1045  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1195  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1300

---

##### LOW IDLE

control lever  
position degree : 16.0  
tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 250  
rack travel mm : 8.60  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 10.10

Rated speed rpm : 415

---

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1100

Rack travel in mm : 16.50

Tolerance mm : + 1.30

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure

hPa : 700

Del. quantity

cm<sup>3</sup>/1000 strokes : 191.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance

cm<sup>3</sup>/1000S. : + 3.5

---

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 15.55  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 13.25  
Tolerance mm : + - 0.05

Rated speed rpm : 500

Pressure hPa : 310  
rack travel mm : 13.80  
Tolerance mm : + - 0.10

Pressure hPa : 445  
rack travel mm : 15.05  
Tolerance mm : + - 0.05

---

End of test specification sheet

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.5  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 14.50  
Rated speed rpm : 1045  
Tolerance 1/min : + - 5

---

#### LOW IDLE

Rated speed rpm : 250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.05.95  
Test oil : ISO 4113

Combination No. : 0 401 846 826

Injection pump  
Pump designation : PE6P120A320RS3178  
EP type number : 0 411 826 752

Governor  
Governor design. : RQV250...1025PA921  
: -2  
Governor no. : 0 421 813 785

Cust. part No. : 470930-P06 V. 06/92

Customer-spec. information  
Customer : VOLVO-TRUCK  
Motor : TD122FS  
Power KW : 287.0

### TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

NO:

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Barrel no. : 1

### BASIC SETTINGS

Rated speed rpm : 700

Rack travel in mm : 14.03  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 259.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 250  
 Rack travel in mm : 4.95  
 Tolerance mm : + 0.15  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 20.0  
 cm<sup>3</sup>/1000 strokes : + 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1130

Rack travel in mm : 16.50  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 259.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0

control lever  
 position degree : 120.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 13.05  
 Rated speed rpm : 1060  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1155  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1250

##### LOW IDLE

control lever  
 position degree : 63.0  
 tolerance degree : + 4.0

control lever  
 position degree : 10.  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 250  
 rack travel mm : 4.95  
 Tolerance mm : + 0.15

Rated speed rpm : 160

CRT mm min. : > 6.40

Rated speed rpm : 325

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500

Pressure hPa : 1200  
rack travel mm : 14.05  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.40  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 780  
rack travel mm : 3.30  
Tolerance mm : + 0.20

Pressure hPa : 105  
rack travel mm : 0.25  
Tolerance mm : + 0.05

Rated speed rpm : 250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
cm<sup>3</sup>/1000 strokes : + 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 13.05  
Rated speed rpm : 1060  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 290.0  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

---

#### LOW IDLE

N03

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.05.95  
Test oil : ISO 4113

Combination No. : 0 401 846 938

Injection pump  
Pump designation : PE6P110A320RS3266  
EP type number : 0 411 816 777

Governor  
Governor design. : RQV300...1300PA996  
: -1K  
Governor no. : 0 421 815 278

Cust. part No. : 420803-P05 V. 03/95

### Customer-spec. information

Customer : VOLVO-TRUCK  
Motor : TD63E  
Power KW : 133.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.52  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 8.60  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 780

Rack travel in mm : 10.45  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 105.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rack travel in mm : 5.50  
 Tolerance mm : + - 0.10

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 330  
 guide sleeve  
 travel mm : 1.50  
 Tolerance mm : + - 0.25

Rated speed rpm : 1374  
 guide sleeve  
 travel mm : 9.97  
 Tolerance mm : + - 0.25

Rated speed rpm : 1000  
 guide sleeve  
 travel mm : 5.68  
 Tolerance mm : + - 0.25

Rated speed rpm : 411  
 guide sleeve  
 travel mm : 2.64  
 Tolerance mm : + - 0.25

Rated speed rpm : 461  
 guide sleeve  
 travel mm : 3.10  
 Tolerance mm : + - 0.25

Rated speed rpm : 610  
 guide sleeve  
 travel mm : 3.59  
 Tolerance mm : + - 0.25

Rated speed rpm : 1483  
 guide sleeve  
 travel mm : 12.00  
 Tolerance mm : + - 0.25

+ Rated speed rpm : 1580  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1470  
 Rack travel in mm : 9.00  
 Tolerance mm : + - 3.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 780  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 105.0  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 54.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 118.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 10.40  
 Rated speed rpm : 1365  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1455  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1520

##### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + - 4.0

control lever  
position degree : 10.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 330  
rack travel mm : 5.50  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 7.00

Rated speed rpm : 450

#### TORQUE CONTROL

Rated speed rpm : 780  
rack travel mm : 10.45  
Tolerance mm : + - 0.05

Rated speed rpm : 1300  
rack travel mm : 11.40  
Tolerance mm : + - 0.10

Rated speed rpm : 1050  
rack travel mm : 10.90  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1300  
Pressure hPa : 1200  
rack travel mm : 11.40  
Tolerance mm : + - 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1300  
rack travel mm : 8.60  
Tolerance mm : + - 0.10

Rated speed rpm : 1300

Pressure hPa : 650  
rack travel mm : 2.40  
Tolerance mm : + - 0.20

Pressure hPa : 130  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 116.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 780  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 74.0  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 10.40  
Rated speed rpm : 1365  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.60  
Tolerance mm : + - 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 75.0  
cm<sup>3</sup>/1000 strokes : + - 10.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 14.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 16.08.95  
Test oil : ISO 4113

Combination No. : 0 401 846 948

Injection pump  
Pump designation : PE6P120A320RS3206-1  
EP type number : 0 411 826 775

Governor  
Governor design. : RQ750PA783-2  
Governor no. : 0 421 801 600

Cust. part No. : 864851 P07 V. 03/95

### Customer-spec. information

Customer : PENTA  
Motor : TWD 121 OG

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.50  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.30  
Tolerance mm : ± 0.05

Del. quantity  
cm³/1000 strokes : 325.0

cm³/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 757  
guide sleeve  
travel mm : 4.85  
Tolerance mm : + 0.25

Rated speed rpm : 510  
guide sleeve  
travel mm : -7.81  
Tolerance mm : + 0.25

Rated speed rpm : 860  
guide sleeve  
travel mm : 18.06  
Tolerance mm : + 0.25

Rated speed rpm : 806  
guide sleeve  
travel mm : 10.00  
Tolerance mm : + 0.25

Rated speed rpm : 860  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -

+ Del. quantity  
cm<sup>3</sup>/1000 strokes : 325.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 88.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.30  
Rated speed rpm : 751  
Tolerance 1/min : + 3

rack travel mm : 4.00  
Rated speed rpm : 786  
Tolerance 1/min : + 7

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 748  
rack travel mm : 12.30

Rated speed rpm : 783  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 749  
rack travel mm : 12.30

Rated speed rpm : 784  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 850

Rated speed rpm : 750  
rack travel mm : 12.30

Rated speed rpm : 785

Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 850

Rated speed rpm : 751  
rack travel mm : 12.30

Rated speed rpm : 786  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 850

Rated speed rpm : 752  
rack travel mm : 12.30

Rated speed rpm : 787  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 850

Rated speed rpm : 753  
rack travel mm : 12.30

Rated speed rpm : 788  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 850

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.30  
Tolerance mm : + - 0.05

---

#### BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 751  
Tolerance 1/min : + - 3

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.01.86  
Test oil : ISO 4113

Combination No. : 0 401 876 324

Injection pump  
Pump designation : PE6P110A320RS492  
EP type number : 0 411 816 161

Governor  
Governor design. : RSV200...1000P1A305  
: -3  
Governor no. : 0 421 833 208

Cust. part No. : P02v 151085

### Customer-spec. information

Customer : VME  
Motor : TD71ACE

### TEST BENCH REQUIREMENTS

Inlet line : 1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spread  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000s. : 7.5

Rated speed rpm : 200  
  
Rack travel in mm : 5.00  
Tolerance mm : + 0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 19.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Spred cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
  
Rack travel in mm : 0.50  
Tolerance mm : + 0.20  
  
governor spring pre-tension  
click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure hPa : -  
Del. quantity cm<sup>3</sup>/1000 strokes : 127.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
Spred cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance cm<sup>3</sup>/1000S. : 7.5

CONTROL LEVER

control lever position degree : 54.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.40  
Rated speed rpm : 1015  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1065  
Tolerance 1/min : + 15  
  
rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1210

LOW IDLE

control lever position degree : 17.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200  
rack travel mm : 5.50

Testing:

Rated speed rpm : 200  
rack travel mm : 5.00  
Tolerance mm : + 0.10  
  
rack travel mm : 2.00  
Rated speed rpm : 310  
Tolerance 1/min : + 30

Rated speed rpm : 100

BREAKAWAY

Rack travel in mm : 11.40  
Rated speed rpm : 1015  
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 200

Det. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Spread  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.01.96  
Test oil : ISO 4113

Combination No. : 0 402 646 618

Injection pump  
Pump designation : PE6P120A720RS7283  
EP type number : 0 412 626 881

Governor  
Governor design. : RQV300...1100PA1061K  
Governor no. : 0 421 815 345

Cust. part No. : 615.60.08.0302

## Customer-spec. information

Customer : SNF  
Motor : WD615.46  
Power KW : 266.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 130  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.40  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 14.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.50

## Start of delivery mark

Tolerance : + 0.10  
Check tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.40

Tolerance mm	: + 0.05
Del. quantity cm <sup>3</sup> /1000 strokes	: 275.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
Rated speed rpm	: 300
Rack travel in mm	: 6.10
Tolerance mm	: + 0.10
Del. quantity cm <sup>3</sup> /1000 strokes	: 15.0
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spred cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.64
Tolerance mm	: + 0.10
Rated speed rpm	: 1187
guide sleeve travel mm	: 10.71
Tolerance mm	: + 0.10
Rated speed rpm	: 829
guide sleeve travel mm	: 7.03
Tolerance mm	: + 0.25
Rated speed rpm	: 314
guide sleeve travel mm	: 1.82
Tolerance mm	: + 0.25
Rated speed rpm	: 364

guide sleeve travel mm	: 2.41
Tolerance mm	: + 0.25
Rated speed rpm	: 490
guide sleeve travel mm	: 3.67
Tolerance mm	: + 0.25
Rated speed rpm	: 1390
guide sleeve travel mm	: 13.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1200
Rack travel in mm	: 13.00
Tolerance mm	: + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 275.0
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 120.0
tolerance degree	: + 4.0

##### RATED SPEED

rack travel mm	: 13.40
Rated speed rpm	: 1145
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1265
Tolerance 1/min	: + 15
rack travel mm	: 0.75
Tolerance mm	: + 0.75
Rated speed rpm	: 1350

---

#### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 6.10  
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

Rated speed rpm : 375

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 14.40  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 12.50  
Tolerance mm : + 0.10

Rated speed rpm : 950  
rack travel mm : 14.20  
Tolerance mm : + 0.10

Rated speed rpm : 800  
rack travel mm : 13.80  
Tolerance mm : + 0.10

Rated speed rpm : 650  
rack travel mm : 12.80  
Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 14.40  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100

+ rack travel mm : 10.60  
Tolerance mm : + 0.10

+ rated speed rpm : 1100

+ Pressure hPa : 890  
+ rack travel mm : 13.45  
+ Tolerance mm : + 0.05

+ Pressure hPa : 450  
+ rack travel mm : 11.40  
+ Tolerance mm : + 0.10

---

#### START CUT-OUT

+ rated speed rpm : > 100  
+ rated speed rpm : < 220

+ Check  
speed 1/min : > 80  
+ Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 262.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.60  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Speed  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.01.96  
Test oil : ISO 4113

Combination No. : 0 402 646 643

Injection pump  
Pump designation : PE6P120A720RS7283  
EP type number : 0 412 626 881

Governor  
Governor design. : RQV300...1100PA1061  
: -1K  
Governor no. : 0 421 815 377

Cust. part No. : 615.60.08.0282

### Customer-spec. information

Customer : SNF  
Motor : WD615.44  
Power KW : 236.0

### TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 130  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.40  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 14.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery mark

Tolerance : + 0.10  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.10

Tolerance mm : + 0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 239.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 6.10  
 Tolerance mm : + 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 16.0  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 6.0  
 Spread cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.64  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1171  
 guide sleeve travel mm : 10.51  
 Tolerance mm : + 0.25  
 Rated speed rpm : 823  
 guide sleeve travel mm : 6.98  
 Tolerance mm : + 0.25  
 Rated speed rpm : 314  
 guide sleeve travel mm : 1.82  
 Tolerance mm : + 0.25  
 Rated speed rpm : 364

guide sleeve travel mm : 2.49  
 Tolerance mm : + 0.25  
 Rated speed rpm : 480  
 guide sleeve travel mm : 3.56  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1390  
 guide sleeve travel mm : 13.50  
 Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1250  
 Rack travel in mm : 13.00  
 Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 239.0  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 120.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 12.10  
 Rated speed rpm : 1145  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1265  
 Tolerance 1/min : + 15  
 rack travel mm : 0.75  
 Tolerance mm : + 0.75  
 Rated speed rpm : 1350

---

**LOW IDLE**

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

**Testing:**

Rated speed rpm : 300  
rack travel mm : 6.10  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

Rated speed rpm : 375

---

**TORQUE CONTROL**

Rated speed rpm : 1100  
rack travel mm : 13.10  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500  
rack travel mm : 11.30  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 950  
rack travel mm : 12.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 800  
rack travel mm : 12.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 650  
rack travel mm : 11.70  
Tolerance mm :  $\pm$  0.10

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 13.10  
Tolerance mm :  $\pm$  0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 1100

rack travel mm : 10.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1100

Pressure hPa : 690  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 430  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.20

---

**START CUT-OUT**

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 221.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

**BREAKAWAY**

Rack travel in mm : 12.10  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.60  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

---

#### LOW IDLE

Rated speed rpm : 300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.03.94  
Test oil : ISO 4113

Combination No. : 0 402 646 646

Injection pump  
Pump designation : PE6P130A1320/5RS7334  
EP type number : 0 412 636 826

Governor  
Governor design. : RQV350...900PA760-1  
Governor no. : 0 421 813 617

Cust. part No. : 76.61.028

---

Customer-spec. information  
Customer : GUASCOR  
Motor : F180, F360 T/TA  
Power KW : 338.0

---

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

---

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

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### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

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### BASIC SETTING

Rated speed rpm : 900

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Rack travel in mm : 13.35  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 300.5

cm³/1000 strokes : + 1.5

Check tolerance  
cm³/1000s. : + 5.0

Spred  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

Rack travel in mm : 5.30  
Tolerance mm : + - 0.20

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.62  
Tolerance mm : + - 0.25

Rated speed rpm : 957  
guide sleeve  
travel mm : 8.57  
Tolerance mm : + - 0.25

Rated speed rpm : 469  
guide sleeve  
travel mm : 3.42  
Tolerance mm : + - 0.25

Rated speed rpm : 519  
guide sleeve  
travel mm : 4.07  
Tolerance mm : + - 0.25

Rated speed rpm : 720  
guide sleeve  
travel mm : 5.69  
Tolerance mm : + - 0.25

Rated speed rpm : 1150  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 950

Rack travel in mm : 16.50  
Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 300.5  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spred  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

CONTROL LEVER

control lever  
position degree : 61.0  
tolerance degree : + - 4.0

control lever  
position degree : 117.0  
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 12.35  
Rated speed rpm : 945  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1050  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1150

LOW IDLE

control lever  
position degree : 67.0  
tolerance degree : + - 4.0

control lever  
position degree : 12.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.30  
Tolerance mm : + - 0.20

Rated speed rpm : 250

CRT mm min. : > 6.50

Rated speed rpm : 425

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BREAKAWAY

Rack travel in mm : 12.35  
Rated speed rpm : 945  
Tolerance 1/min : + 5

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.07.92  
Test oil : ISO 4113

Combination No. : 0 402 646 967

Injection pump  
Pump designation : PE6P130A720RS7150  
EP type number : 0 412 636 808

Governor  
Governor design. : RQV250...900PA881-1  
Governor no. : 0 421 813 982

Cust. part No. : 864988-P03 27.02.96

### Customer-spec. information

Customer : PENTA  
Motor : TAMD 162 C

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5

x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.65  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Del. quantity  
cm<sup>3</sup>/1000 strokes : 336.0

cm<sup>3</sup>/1000 strokes : + 1.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spread  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

Rated speed rpm : 250

Rack travel in mm : 4.20  
 Tolerance mm : + - 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.5  
 cm<sup>3</sup>/1000 strokes : + - 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.10  
 Tolerance mm : + - 0.20

Rated speed rpm : 925  
 guide sleeve  
 travel mm : 7.70  
 Tolerance mm : + - 0.10

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 2.30  
 Tolerance mm : + - 0.30

Rated speed rpm : 700  
 guide sleeve  
 travel mm : 4.80  
 Tolerance mm : + - 0.30

Rated speed rpm : 985  
 guide sleeve  
 travel mm : 8.60  
 Tolerance mm : + - 0.20

##### GUIDE SLEEVE POSITION

Rated speed rpm : 980  
 Rack travel in mm : 16.50  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 1000

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 336.0  
 cm<sup>3</sup>/1000 strokes : + - 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

##### CONTROL LEVER

control lever  
 position degree : 118.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 10.50  
 Rated speed rpm : 930  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1000  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1100

##### LOW IDLE

control lever  
 position degree : 67.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 250  
 rack travel mm : 4.20  
 Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 5.70

Rated speed rpm : 300

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 11.55  
Tolerance mm : + - 0.05

Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.20  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 350  
rack travel mm : 9.50  
Tolerance mm : + - 0.10

Pressure hPa : 665  
rack travel mm : 11.25  
Tolerance mm : + - 0.05

End of test specification sheet

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 228.0  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

#### BREAKAWAY

Rack travel in mm : 10.50  
Rated speed rpm : 930  
Tolerance 1/min : + - 5

#### LOW IDLE

Rated speed rpm : 250  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.5  
cm<sup>3</sup>/1000 strokes : + - 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
cm<sup>3</sup>/1000 strokes : 5.0